

AMERICAN
DENTAL
JOURNAL

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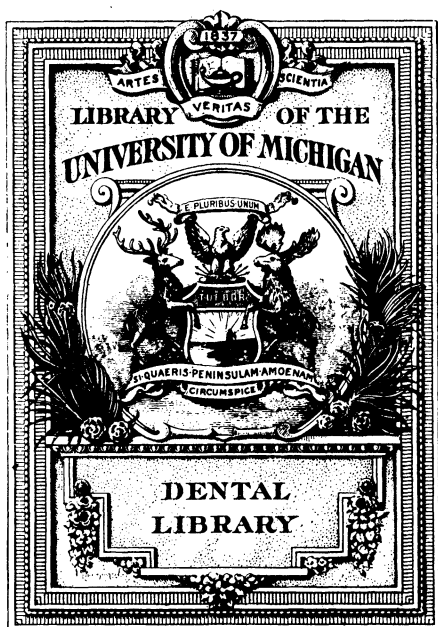
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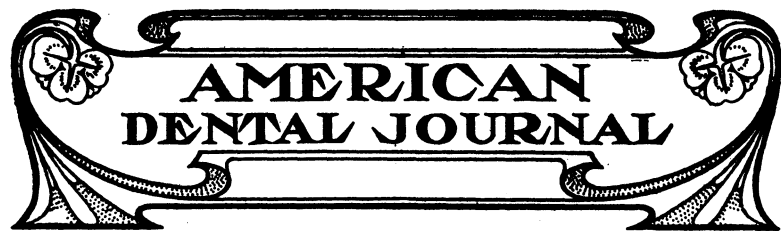
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PUBLISHED ON THE FIRST OF EVERY MONTH

Vol. 8.

SEPTEMBER, 1908.

No. 9

Our Post Graduate Course.

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Listerine Tooth Powder

Tooth powders have long been empirically employed, chiefly as a mechanical agent for cleansing the teeth, and with little regard to their composition or chemical action. Many of the articles sold for this purpose contain ingredients prone to fermentative action in the mouth, such as orris root, starch, sugar, etc., and, in addition, pumice stone, cuttlefish bone, or other harmfully abrasive substances.

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To dental practitioners of record, the manufacturers will be pleased to send a supply of samples of Listerine Tooth Powder for distribution to patients.

Lambert Pharmacal Co.
Saint Louis

OUR POST GRADUATE COURSE

PORCELAIN.

T. ELHANAN POWELL, D. D. S.

When a tooth is disfigured on the labial surface with faulty enamel or decay it is sometimes a difficult task to preserve it and at the same time restore it to a natural appearance.

Too often the dentist advises devitalization followed by a crown, which device is preferable to a blotched and unsightly appearance.

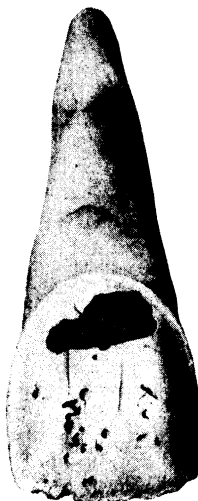


Fig. 1.

How often do we see even now the anterior teeth filled with gold here and there, giving the "victim" the appearance of having been shot with a gun charged with gold bird shot.

If there are but a few of these faults in the enamel and they occur in groups in close proximity so that they may be connected without the sacrifice of too much tooth substance, the tooth might be

restored with one or even two or three porcelain inlays; but where the pits are numerous and scattered over the entire labial surface, complicated with caries, as in illustration No. 1, instead of filling with several inlays or putting on a porcelain crown, it would be better, usually, to cut away the entire labial surface, devitalizing the tooth if necessary and restoring the labial portion with porcelain.

I find that many of my better patients hesitate to have even poor teeth cut off and crowned, preferring even a makeshift which

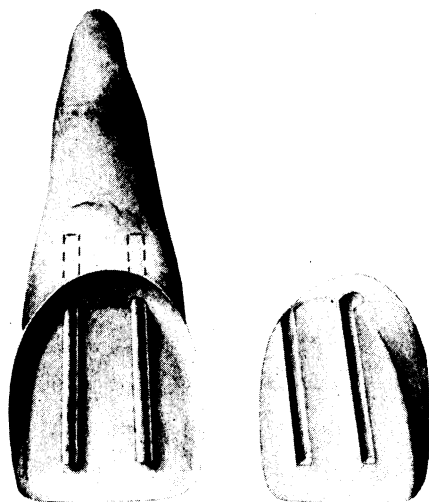


Fig. 2.

will defer for a short time the sacrifice of their own tooth. As soon as the natural crown is removed a patient feels that the tooth has been lost and invariably refers to it as a "false" tooth; but, if it be literally built up with gold or any other substance, he will still feel that it is his very own. This feeling among patients should encourage us in our efforts to save tooth substance by delaying the crown until nothing else can be done.

We often are advised to educate our patients; I sometimes have reason to believe that the average patient is already educated in advance of a large proportion of our fellow practitioners. I am

often filled with anger and disgust when I find the natural "light" of a cuspid or a lateral or a central, as the case may be, hidden under a gold "bushel," or with a whole row of anterior teeth sacrificed to the gum line, grafted with so-called porcelain crowns showing a yawning chasm between the roots and porcelain, lingually.

To grind away the labial portion in the defective tooth, use carborundum stones and run wet, follow the curve of enamel at the gingival border, cutting toward the lingual far enough to make a sufficient thickness of porcelain. The cutting edge may be ground short so that when the porcelain inlay is made it will extend across the cutting edge the incisal fourth, although this is not necessary;

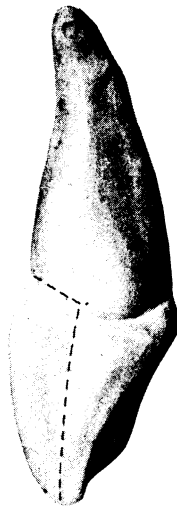


Fig. 3.

instead, we may grind the portion of the tooth remaining to the thickness of a line or two linguo-incisally.

I should reduce the proximal portions of the tooth with a gradual curve toward the lingual so that the contact points will be porcelain.

When the tooth is prepared with stones to the desired shape, I would drill into the root at the root-wise portion of the cavity two holes for the reception of gold posts, using a bur about the size of the posts to be used.

After preparing these holes, slightly roughen the posts with a file, setting them with cement, as in Fig. 2. After setting the posts,

I would burnish platinum 1,000 fine over the cavity and posts in the same way that I burnish for an inlay—first with rubber (vulcanite), afterwards adapting with burnishers over tape tightly drawn across the platinum.

When a properly adapted matrix has been secured, we are ready for the baking. Now, here is a case where the proper shading may be more readily and surely obtained by the use of a matrix lining baked as a first layer on the matrix, after which the different layers of body in enamel may gradually be placed, giving to the finished inlay the appearance of No. 3.

Peel off the matrix and set with cement in the usual way.

I prefer this method in large proximo-incisal restorations to the usual one of baking a "pin" in the porcelain. Better adaptation can be obtained by placing the pin in the tooth first, bending it in such a way that it will be snug to the cavity along the entire proximal surface.

A round wire should be used and a slight undercut plumped by the use of a little wax or cement to facilitate the withdrawal of the matrix, which wax or cement should be removed before setting the inlay.

In restoring the incisal edge of a tooth I should make two holes distally and mesially of the developmental grooves; make a staple with the two ends fitting into these holes. The staple I would cement to place and proceed as described previously. In my opinion, the restoration is much stronger cemented to a staple as described than it would be with pins baked in the porcelain.

(To be continued.)

OPERATIVE DENTISTRY.

BY R. B. TULLER, D. D. S.

THE EXCLUSION OF MOISTURE IN DENTAL OPERATIONS.

One of the greatest hindrances to perfect work in dental operations is the flow of saliva; and the dentist who began his professional life since the introduction of the rubber coffer dam may sometimes wonder how many operations were done before that time. The facts are that many things were not done. Again, some things were done at the greatest disadvantage. There would be but few cohesive gold fillings made today if the rubber dam was not at command, unless necessity, the mother of invention, had brought out something else of like value, and who can conceive of anything that would be anywhere near a substitute? It was the introduction of cohesive gold that made something in the nature of the rubber coffer dam almost an absolute necessity, something which not only guards against the constant flowing of saliva, but hugs the necks of the teeth so close that the serum that oozes from the gums is prevented from flowing into the field of operation.

Previous to the rubber dam the dentist had to have a goodly stock of mouth napkins on hand, and these becoming easily saturated had to be frequently changed during even short operations; and it was done, too, by the experts of those days, with a deftness that would tax an operator of later day education to do, and not flood his work in the change.

The dentist of today, with his rubber dam properly adjusted, has both hands free to employ as he finds need; and he may even leave the side of his patient for some little time, if occasion requires, without detrimental results. In using napkins in the old way one hand was entirely employed in holding them and was most severely taxed in the endeavor; and to step away from the patient for a brief moment was well nigh impossible, without the field of operation becoming wet. The tediousness of holding the napkin with one or two fingers while others held the lips and cheek away was sufficient, frequently, to produce a paralysis of the hand so employed, or the fingers involved; or a cramp and numbness would afflict the fingers and hand so that the sense of feeling in them would be temporarily

destroyed. When this condition obtained with loss of control of the fingers and loss of sense of touch in them, the napkins became displaced without the mind sensing it except by sight, contrary to wish and best endeavor, and much to the discouragement of both patient and operator. The writer's father was a dentist, and himself sometimes an assistant in these efforts to control the flow and accumulation of saliva; successful often, but many times, with a restless patient, a complete failure.

Of course the up-to-date dentist has many occasions to use napkins or cotton rolls, the latter a great convenience, indeed, for short operations; but for these he has clamps devised to hold them in place without an entire monopoly of the left hand; and he has also the fountain cuspidor with its attachment devised to syphon out the saliva that accumulates in the lower part of the mouth. When running water is not a part of the office fixtures, and consequently no fountain cuspidor and no syphon, there is devised a saliva pump with a receptacle for the saliva which may be operated by the patient by the squeezing of a rubber bulb lying in the lap and acting as a pump. Such a convenience would have been highly appreciated by the dentist of forty and fifty years ago. But rubber in those days was a new thing and had not developed into the hundreds of thousands of convenient articles we have today. How many uses are found now for the familiar rubber bulb. How much they are a part of a dentist's outfit today in various ways.

Napkins, as usually used, do little or nothing to stem the flow or exudation of serum that comes from around the teeth, unless cotton pellets are used deftly pressed into the inter-proximal spaces, to be frequently replaced perhaps, as they become saturated, as moisture is liable to seep through to our work. But rubber dams, while indispensable to the modern dentist, does not fill the whole bill in all cases, and the napkins and rolls still have their uses and always will. The napkins of today, however, differ considerably from those of old, in the fact that they are expressly made for dental uses, being simply cut from the muslin cloth as it comes from the mills and presumed to be perfectly clean and sterile, so claimed at least, and no doubt true, and packed as are the sterilized cotton rolls, in boxes of different sizes, one hundred or more in a box, and these to be used but once and thrown into the waste. This is a sanitary measure highly appreciated by both the dentist and patient. The expense of

these things are so trifling that there would be no economy in sending napkins to the laundry.

In the old days the napkins were usually hemmed or fringed, and naturally went to the laundry with towels and other linen of the office. Now they are thrown away.

The clamps devised to hold these napkins of today are of comparatively recent invention. They followed as a sequence to the rubber dam clamp, which was a sequence of the rubber dam, and came with a necessity of quickly adjusting and holding the dam without the necessity always of tying. The napkin clamps came as a development from the other, by adding proper lips or prongs to engage the napkins or rolls. The old-time dentist would have greatly appreciated such a convenience, and would have been greatly reinforced in his efforts to exclude moisture. With such clamps the left hand would have been more free to employ in other ways than in diligently keeping the napkin snugly in place.

All practitioners know how much more profusely the saliva flows with some than with others, and how quickly napkins and rolls become saturated so that they must be replaced only to be quickly filled up again. The old time dentist sought to check this flow by stopping the saliva ducts and this was sometimes very successfully done. Several devices were invented. For the buccal ducts there was devised a spring wire bent on itself, and padded on both ends so that when adjusted one prong went inside and one outside the cheek, the spring of the wire caused sufficient pressure to stop the duct; but the thing became decidedly uncomfortable in many instances with increasing tendencies in that direction, and owing to the involuntary movement of the muscles of the cheek it would readily become disengaged from the duct. There was also devised in those days a porous, saucer-shaped disk of baked clay, which, being absolutely dry to begin with, could be adjusted over the duct, which would remain, securely closing the same for some time, by atmospheric pressure, or until very thoroughly saturated, when it would drop and another could be substituted.

For the lower teeth a clamp was devised which, having a concave plate adapted to the under chin, held a forked prong inside the lower teeth by an arm and connecting spring ratchet, so that when a napkin was placed in a thick pad over the ducts of the sublingual glands and the upper and under parts were pressed together

the pad was fixedly and firmly held as long as desired, very securely closing the ducts. This could be tolerated with no pain for a long time and little discomfort, except that the tongue was held absolutely quiet and became very dry in consequence; also the throat, as no saliva could be swallowed to moisten it—there was little or none to swallow. This device is not entirely obsolete, but is rarely used by the latter day dentists.

Another old but useful device, seldom seen now, but always useful, may be described as a sort of flattened, bell-shaped, or cow-bell-shaped, shell cut away on one side to allow the teeth, when in position in the mouth, to stand up inside the shield. Its use is confined to molars and bicuspid. A napkin is first rolled and adjusted on either side of the teeth, then the device is placed to rest upon it and then it is held in place by closing the jaws. The affair is brightly silver-plated and reflects a good light upon the field of operation, and it flares widely enough to permit of the free use of most of one's instruments, the top and sides forming a shield against moisture and against the encroachments of cheek or tongue. For short operations, and especially with children or any one with an inclination to close the jaws and draw in the lips to restrict operations, it will be found a useful adjunct.

As a substitute for this a recent inventor has produced three shields peculiarly shaped, one for the anterior teeth, and a right and left pair for either side of the mouth. These devices, all of them, are particularly useful when the rubber dam cannot for some reason be adjusted, or when the operator prefers not to use it, and especially are they useful with persons who seem to be all lips, cheeks and tongue, over which they seem to have no control only to forcibly obtrude them to prevent any sort of an operation on their teeth; also for those languid dispositions, who continually close their jaws to constrict both vision and operation of instruments.

If a large proportion of the dentists of today were deprived of rubber dams, they would be very much at a loss, both as to knowledge and equipment, what to do in such emergency. While improvements have superseded old-time appurtenances and methods, the dentist who is equipped with some of these old devices and who knows just how to use napkins in the old way is doubly equipped for most any emergency.

(To be continued.)

BACTERIOLOGY AND PATHOLOGY.

BY GEORGE W. COOK, B. S., D. D. S., CHICAGO, ILL.DEAN OF DENTAL DEPARTMENT, UNIVERSITY OF ILLINOIS; PROFESSOR
OF BACTERIOLOGY, UNIVERSITY OF ILLINOIS.

The importance of understanding the artificial cultivation of bacteria and the means of determining the virulency of certain pathogenic bacteria, is a subject that has created some of the most extended researches of any of the biological problems that confronts physiology, bacteriology and physiological chemistry. So far as we know all living things must have neutral or nearly neutral environments. Light and temperature also play an important role in the development of bacteria. It has been observed that most bacteria thrive best in the absence of the light, though there are some that cease to grow when excluded from the light and when returned to their natural habitat they again develop. Englemann's classical experiments upon this phase of the problem caused the naming of the bacterium photometricum. However, it has also been observed in these same experiments that some bacteria are destroyed by direct sunlight. Some investigations have shown that the pigment produced by some bacteria has considerable influence upon the behavior of them in the presence of sunlight. The bacterium chlorinum, as was demonstrated by Englemann, gave off oxygen in the presence of light. Zopf observed that the bacterium that has a purple pigment was liable to produce this pigment more luxuriantly in the presence of sunlight than in the dark.

In the pigmentation of bacteria we have a phenomena that is interesting and very instructive from which to make some deductions with reference to the physiological change that is produced in bacteria under different environments. One of the strange observations that I have made is that bacteria are seldom observed producing pigmentation in the human oral cavity. I did, however, isolate from the oral cavity an organism that was capable of producing a beautiful blue pigmentation and this pigmentation was also abundant in the mouth from which I obtained the organism. I was asked by one of my dental friends to see a case which he had had under observation for a considerable time, and this bluish or purple pigmentation was abundant

from time to time. He had used all sorts of mouth-washes and had followed up some treatment for the gums. There was also a tendency of a hemorrhagic condition of the mucous membrane and he had tried in vain to free this mouth of the conditions just mentioned. But the patient was soon lost sight of. After my obtaining cultures two or three times from the oral cavity on the ordinary culture media, I felt almost sure that this organism was producing the peculiar pigment and I tried it on bread, egg albumen, potatoes, bouillon, Rollin's solution, which is a physiological solution of the inorganic salts with asparagenic acid.

I had at that time a patient in the infirmary under observation in whose saliva there was present the largest quantity of ferricyanid I have ever tested for and found in the mouth. We afterwards made a quantitative analysis of the saliva to find that the patient as proximately estimated had 1-1,000 of one per cent of ferricyanid in the saliva. Of course, this quantity could not be exactly estimated, but we figured it out on the molecular basis of a given quantity of saliva, and then made up solutions that gave a definite quantity. After fractional sterilization of this saliva by first weighing a quantity and then sterilizing it in a vacuum, we had about the same quantity by weight after sterilization that we had to begin with. This organism produced the same quantity of pigment or thereabouts, by spectroscopic analysis, as was present in that which was removed in the saliva of the patient. I was then able to make up a culture media containing potato broth about 10 per cent, beef bouillon about 10 per cent and asparagenic acid 1 per cent in a physiological salt solution, and we found that the best pigmentation of the organism or rather the highest efficiency of coloring matter obtained, was that grown in an 8 per cent of a 1-1,000 ferricyanid solution. This interesting observation did not reveal anything of a special pathological condition, but it did bring out some interesting biological phenomena. While they were known to many investigators they were not specially known to this particular locality of the oral cavity. This pigmentation is striking in that it is so closely allied to the field of operation in dental surgery.

The phosphorescent bacterium is another organism that has many points of interest with reference to its physiological function. It will cause illumination in sea water and in decomposing meat and fish. These phosphorescent organisms are usually facultative anaerobic.

But when they are grown as aerobic bacteria and a small quantity of oxygen is added after the growth is begun or has gotten well along the way of development, the organisms lose their phosphorescent power and it can never be obtained to those organisms again. I have on several occasions placed these organisms in celloidin sacks and placed them in the mouth of a colored boy, who was an assistant in the laboratory, for twenty-four hours to find that that was the only place we could obtain the phosphorescent power as aerobic bacteria of any of the specie that we had in the laboratory at that time.

Many of these phosphorescent organisms will grow at zero temperature and on fish they will produce considerable luminosity at a temperature even blow zero. Even some of these varieties have been known to maintain their luminating power in surface water in the presence of ice. This phenomena is quite unusual for all forms of bacteria. Many will maintain their spores for a considerable length of time in ice, but there are but few that are able to maintain their vegetative power in a temperature below freezing. These with many other phenomena are striking in that but few of the pathogenic germs will maintain any of their pathogenic properties at 5 degrees C. and many lose their power at 20 C. It is claimed by some investigators that a vast majority lose their virulency at a temperature below that of the animal body. Globig has observed that there are species of bacteria that live in the upper surface of the soil under a direct sun rays anywhere from sixteen to sixty-eight degrees.

It will be borne in mind physiologically that the ordinary proteids are changed in a temperature ranging from 54 C. to 64 C., but many bacteria have been known to form their spores at a temperature of 74 C., and the cynophycea will now grow ordinarily at a less temperature than 77 C. Some of the diatoms that grow in hot springs will stand a temperature even higher than this. It will be seen from this that the possibilities of destroying certain forms of bacteria with a high temperature is not as easy as would be thought from a general observation. A temperature of 70 C. would be 150° Fahrenheit. While temperature plays an important role in the growth and development of many bacteria we see that many can live at extreme cold or extreme high temperature, and the temperature of one bacterium may not be the proper temperature for another. However, we consider that a temperature nearly within the range of the body temperature comes the nearest to the majority of these organisms.

The ordinary temperature of a human oral cavity comes the nearest to the optimum temperature for most bacteria, therefore this may account for the general belief that the oral cavity makes a good incubator for the vast majority of bacteria. The correctness of this hypothesis is most likely true for a large number of bacteria, in that most bacteria proliferate at this temperature.

Since we recognize that the temperature ranges from zero C. to 77 C. for the growth and development of certain forms of bacteria, we may consider that temperature while it is important it does not play the greatest part in the growth and development of bacteria. Food and moisture are the most important in the growth and development of all living organisms. It is upon these two sources that bacteria must depend for the proper environment for doing a certain class of work that may be called their physiological function. We may consider, however, that the quantity and source of oxygen is a fundamental element in their normal activity.

As we have previously stated, Pasteur was the first to discover the anaerobic power of bacteria. Up to his observations it was believed that no living organism could live in the absence of the free oxygen of the air. He and many others have demonstrated from time to time that there are a number of these low forms of life that are quite incapable of living and producing their typical physiological function in the free oxygen of the air. With a casual observation we can see how true it is for many organisms to produce certain functional activities in the absence of the free oxygen of the air. Many observers have shown that the putrefaction processes of dead organic nitrogenous substance cannot take place in the absence of the free oxygen of the air, although we many times open into putrescent pulps of teeth where we would really think that the putrescent condition had taken place in the absence of the free oxygen of the air. So it would seem that there were some conflicting statements or error in the observations here quoted, in that we many times are called upon to open putrescent pulps, and for all tense purposes it would appear that the pulp was entirely excluded from being brought in contact with the free oxygen of the air.

As I have elsewhere previously shown, I could not produce putrefaction of the pulp tissue excluded from the free oxygen of the air, but the phenomena of pulp decomposition has baffled my best observations in opening into a putrescent pulp to find that it had undergone

putrefactive changes, although I could not say that this was a normal putrefactive process. We can break up proteids with certain chemical agents and apparently have the putrescent state by such chemical means. It is barely possible that this is what we have in a putrescent pulp, for this process has been initiated and carried on with complete destruction of the pulp tissue in the absence of the free oxygen of the air. It may be possible that the bacteria present there will produce certain chemical changes in the tissues of the pulp and in this way produce certain changes, in that tissues have all indications of a putrefactive process. If that is the case we naturally would not have the same agents or chemical compounds in a putrescent pulp that we would have in the ordinary putrefactive processes that we call anaerobic.

It is these phenomena that are constantly attesting our limitation of knowledge upon all of these important factors that are present in disease processes, as well as the physiological changes that manifest themselves in living substance. There is so little known of what compounds are formed in living substance as to their origin and as to what they really mean to physiological processes that we find it impossible to interpret many phenomena that are pathological. We have already learned from keen observation of men whose minds are alert to interpretation of many of these phenomena that there is a vast difference of opinion on certain points with reference to certain physiological actions of both the unicellular and multicellular organisms. Therefore it will be some time before we will thoroughly understand what the breaking down of the complexed proteid molecule in the living organism, and even in the dead organic substance, means to physiology and pathology. Therefore we can only take the facts that are known to us and try to understand and interpret them in the truest spirit of our knowledge.

There has been a growing tendency of those in professional life and especially the professions that deal more or less with the phenomena of biological subjects to become hysterical over a little knowledge they have learned themselves without ever having studied the broad fundamental subjects of the sciences from which to make their deductions. Consequently bacteriology in dental pathology created a hysterical wave throughout the profession of dentistry and various interpretations have been placed upon the work of many of our distinguished workers. *(To be continued.)*

Our Foreign Department

THOMAS L. LARSENEUR, D. D. S., Foreign Department Editor

MONUMENT HORACE WELLS.

(*Journal Odontologique de France*, Paris, June, 1908.).

Dr. Quincerot received congratulations from this journal, for having conceived the idea of erecting a monument to the memory of the well-known Horace Wells, father of nitrous oxide.

This idea has received the approval of many and is on its way to success. The committee of organization is composed of: MM. Barrie Bonnard, de Croes, Hugot, Quiencerot, Richard-Chauvin, Ronnet, Schuler, Armand (de Bordeaux), E. Schwartz (de Nimes).

Our best wishes of success to this enterprise.

TREATMENT OF PYORRHEA ALVEOLARIS.

Mr. Dencer Whittles, B. D. S., L. D. S., writes as follows to the *British Medical Journal*: "It may be of interest to the readers of the journal to know that a cure is possible for this distressing malady, which is believed to be an infective ulceration of the periodontal membrane leading to necrosis of the cementum and total absorption of the alveolar processes of the maxilla and mandible, and consequent loss of the teeth. It is unfortunately only the better formed teeth which are affected, hence the loss is more deplorable. During the ulcerative process the cervical lymphatic glands may become enlarged and painful to such an extent as to suggest tuberculous infection, and on that score they have been needlessly removed. I find that the disease may be cured by the local application of protargol with glycerine as a vehicle on the terminal of a battery electrode, using a primary interrupted electric current of such a strength as not in any way to distress the patient. I fear that this troublesome disease is too often overlooked by the physician, and it may probably be the cause of many forms of toxæmia."—*The British Journal of Dental Science*, London, August 1, 1908.

TO OVERCOME THE UNPLEASANT ODOR OF IODOFORM AND CREOSOTE.

(*Le Monde Dentaire*, Paris, July, 1908.)

As we all know the use of *iodoform* is sometimes rejected on account of its disagreeable odor.

Number of processes have been given to neutralize its unpleasant smell with more or less satisfactory results.

The best known probably consists in washing the hands with a solution of linseed. To remove the odor from clothing, etc., they should be rinsed in tarwater containing essence of wintergreen, this will be sufficient to remove all unpleasant odor.

This method will also be found successful to remove the odor of creosote or tricresol.

Concerning creosote, nothing will equal coffee. The burning of coffee in a room saturated with the odor of creosote will remove all traces of creosote smell.

DENTAL GERM DEVELOPED IN A BONY NEOPLASMA OF THE SUPERIOR MAXILLARY.

BY DR. HECTOR CAMPANI.

(*Bulletin du Syndicat des Chirugiens Dentistes de France*, Paris, July, 1908.)

In June, 1907, a lady, age 21, lymphatic temperament, enjoying good health, called on the writer for consultation. The right side of her face was so inflamed that the eye could hardly be seen. There was no rubefaction of the skin.

Four years previously, she had noticed a slight swelling of the nose wing, the cause was said to be a temporary canine, which she was advised to have removed and that after the extraction, all would be well. After the operation instead of being relieved of the condition, it kept on increasing. Frightened, the patient called on the writer for consultation, and here is what was found: A hard tumor extending from the base of the nose to the second molar involving the whole zygomatic fossa. Its upper portion was limited by the orbital fossa and the lower portion by the alveolar ridge. The corresponding nasal fossa was explored with a Bellocq's sound and its opening to the maxillary sinus was found obstructed and closed. Judging from the time that had elapsed, the diagnosis was made as being a *bony neoplasma*.

The tumor was opened, and this gave passage to a yellow salty liquid. The wall was cartilaginous and the inner membrane was found to be of a fibrous character. An injection of tepid water was made in the antrum of Highmore, but the water did not penetrate in the nasal fossa. Another injection was made with a solution of tincture iodine in order to develop inflammation of the intern membrane and the cavity was packed with sterilized gauze.

Two days later the inflammation had increased considerably, the sterilized gauze was removed and replaced by *iodoform-gauze*. The teeth became very tender, especially the first and second molars.

Facial massage was given daily to the patient. After a few days the cavity was curetted and a white body was found adhering to the superior wall. It was removed with ease, and found to be a hard concretion, having almost the consistency of bone. At the center of it was found a nucleus which was recognized as being the germ of the missing cuspid.

Chemical analysis proved it was composed of phosphate of lime and other lime salts.

Three weeks later the patient had recovered entirely.

ALPYN AS A LOCAL ANESTHETIC.

Sorlat (*L'Echo Medical du Nord*, March 29, 1908) has written a thesis on the advantages of alpyn as a local anesthetic. Many such drugs have been put forward since the appearance of cocaine, but only one or two have been found to be of permanent value, and alpyn is one of these. Its poisonous dose is about double that of cocaine and slightly less than that of stovaine; it is easily prepared, is not altered by heat, and therefore readily sterilized whilst post-operative intoxication, with the exception of slight headache, has not been experienced. It acts as a vaso-dilator—not a constrictor, like cocaine—and is therefore valuable for operations about the head and face, as the slight congestion of the bulb which it produces tends to prevent post-operative syncope. For dentistry it has proved itself to be particularly valuable, causing no dangerous symptoms, and in ophthalmology also, whilst in rhino-surgery it is preferable to cocaine, because it does not cause retraction of the mucous membrane; finally, its price is appreciably less than that of cocaine.

Grazzi (*La Clinique Medicale*, April 3, 1907) speaks favorably

of alpyn as a local anesthetic in throat and ear work. It acts quite as well as cocaine as an anesthetic and in smaller doses. It is more soluble than cocaine, and the solution can be readily sterilized; it is also less toxic and less costly. In chronic middle-ear catarrh the author has found it useful when injected through the Eustachian tube in moderate doses. It has also proved beneficial in some varieties of tinnitus aurium, either given through the Eustachian tube or in the external auditory canal. In painful swallowing, from whatever cause, alpyn is useful, either painted or sprayed on the throat; moreover, it does not leave behind it that sense of constriction which follows the use of cocaine. Alpyn has a vaso-dilator action, as opposed to vaso-constrictor action of cocaine; this, again, is no disadvantage when comparing the two drugs.—*The British Journal of Dental Science.*

HYPNOTISM APPLIED TO THE TREATMENT OF TEETH.

(La Revue Internationale de Prothese Dentaire, Paris, June, 1908.)

This treatment has been used for several years by many dentists in painless extractions of teeth, and also for other surgical operations.

Naturally, all subjects are not susceptible to hypnotic influences, but with many, success is readily attained almost without intention on the part of the dentist. Dr. Paradies of Munich describes a similar case. This practitioner usually requests nervous patients to close their eyes and to try to go to sleep.

This advice resulted in a deep hypnotic sleep with one of his lady patients. During the period of the operation which lasted for some time and was quite disagreeable there was no reaction whatsoever from the patient. This enabled the operator to insert in one sitting three large gold fillings, to incise one central incisor, to file a root upon which a Logan crown was fitted and cemented. This operation lasted two and a half hours and during this period the patient slept soundly, giving no sign of pain. She declared when she awakened that she had slept soundly, without dreaming, without having had the sense of hearing nor that of feeling, and she could not remember what had taken place.

The natural sleep is out of question in such cases, as a person could not sleep and have such operations preformed painless, such as filing, condensing or malleting gold without being roused from sleep.

During the hypnotic sleep the pulse and respiration were examined and found to be normal.

The patient was again hypnotized at a second sitting, which lasted one hour and a half, during which four gold fillings were inserted.. She answered to all questions and orders which were given her and seemed to rest quietly, and when "that is all" was said, she opened her eyes and was surprised that all was over without her knowing it.

The dentist succeeded to accomplish in two sittings what in other cases (without the assistance of hypnotic sleep) would have taken three or four times longer.

Consequently hypnotism is an agreeable way of obtaining anesthesia for both the patient and the dentist and will be found to be a very appreciable help to the practitioner.—(Translated from New Freie Zeitung.)

PROPHYLAXIS OF SYPHILIS.

(British Journal of Dental Science.)

(London, May 15, 1908.)

The tendency of medicine is toward the discovery of antitoxic vaccines for the prevention and cure of many diseases which were formerly, and are still, empirically treated with drugs in a haphazard manner. But drugs have still their uses, and as an anti-syphilitic vaccine has yet to be discovered, we must be grateful to Professors Metchnikoff and Roux of the Pasteur Institute for the experiments which seem to have proved the success of calomel, applied locally, in preventing the onset of a disease which has done more harm to the human race than probably any other in modern times.

The successes of the experiments rested on the fact that the anthropoid apes were susceptible to inoculation with the disease. The discovery of the specific microbe the *spirochoeta pallida*, or as it was subsequently named the *trypsonema pallidum* was also a discovery of the utmost importance, and it is not too much to hope that a vaccine may be prepared before long which may be as beneficent as the several other vaccines in daily use for the treatment of other diseases.

The history of the experiments is given in an interesting little work by Dr. Paul Maisonneuve translated by Dr. de Verteuil ("Experimental Prophylaxis of Syphilis": John Wright & Co., Bristol), and we propose to give our readers a brief resume of the work.

The experiments on apes proved that the lesions of primary, secondary and tertiary syphilis contain an infectious virus; gummata are rarely, if ever, the starting point of an infection. Mucous patches—such as those occurring in the mouth—are one of the most common causes of infection. It is considered impossible to contract syphilis through the intact skin or mucous membrane, though a slight scratch or excoriation imperceptible to the naked eye is sufficient to cause inoculation. The specific microbe is found in all lesions in all stages and in hereditary as well as in acquired syphilis. The inoculation is at first a purely local infection on the surface and easily affected by a local therapeutic agent, but in a very short time, after the virus has got into the blood, it becomes a generalized disorder and can no longer be affected by a local treatment. It is therefore most important to act promptly on any suspicion of contagion.

Mercury has been used as a remedy in syphilis for hundreds of years and it was only natural it should be tried in these experiments. Various preparations were used with varying success, until it was found that liquids and solutions containing mercury were inefficacious, but that an ointment composed of calomel, 10 grains, and lanolin, 30 grains, well rubbed into the lesions within a short time after the inoculation, prevents the onset of syphilis.

Although all the experiments were made on apes, one highly successful one was made on a human being in the person of a young French doctor, M. Maisonneuve, who, of course, quite understood what he was about to undergo, and who deserves great praise for his courage. At the same time four monkeys were inoculated with the same virus. Two of them were untreated and showed the usual signs of syphilis, subsequently. Another was rubbed with calomel ointment twenty hours after inoculation, and it also developed syphilis. The four monkeys and M. Maisonneuve were both rubbed with calomel ointment on the affected part for five minutes, one hour after inoculation and neither of them presented any subsequent symptoms of the disease.

The practical application of these experiments to us as dental surgeons is given in the author's words as follows:

"Dentists are liable to contract the disease in the exercise of their profession. It is indeed known that mercurial stomatitis appears oftener and with greater intensity among individuals who take little care of their mouth; as a rule these people are recommended, before commencing a course of mercurial treatment, to have their teeth at-

tended to, to have any carious teeth extracted or filled, to have any tartar scaled away, and, in a word, to have all causes of secondary infection removed. In carrying out any of the above operations, a dental surgeon may easily sustain a slight wound or abrasion through a broken tooth, through which the virus can penetrate into the organism. Henceforth, whenever the examination of a syphilitic patient necessitates direct contact from which a wound results, nothing will be easier than to rub in calomel ointment at the spot where the virus may have entered."

ANESTHESIA WITH CHLOROFORM AT 38° C.

BY DR. HAMM.

(The Dental Surgeon, London, June 27, 1908.)

Having observed that in tropical countries chloroform induces anesthesia in a remarkably satisfactory way, the author undertook a series of experiments with chloroform kept at a temperature of 38° C. (100.4° F.) by immersing the chloroform container in warm water. The number of cases in which anesthesia was induced by means of chloroform at the temperature above given is as yet too low to warrant the author in reaching definite conclusions, but inasmuch as, in the seven cases tried, anesthesia was brought about more rapidly than ordinarily, the patient regained consciousness earlier, and no post-chloroform accidents occurred, Dr. Hamm feels justified in suggesting that his method be given a more thorough trial.—*Archives de Stomatologie*.

Errata, page 489, Fig. 27 (g), band shown on Fig. 26 filled with Stents composition (g). Page 490, Fig. 28 (a), antagonising teeth; (g)—Stents. Fig. 29 (pp), Plaster of Paris; (g)—stents. Fig. 30, Stents removed from band. Page 492, Fig. 36 (pp), Plaster of Paris; (f)—silvered paper; (r)—investment. Page 493, Fig. 38 (p)—Plaster of Paris; (r)—investment material; (C)—wax; (c)—sticky wax; (e)—metal point. Fig. 39 (p)—Plaster of Paris; (r)—investment material; (C)—wax; (c)—sticky wax. Page 494, Fig. 40, (0)—Gold; (r)—investment; (p)—Plaster of Paris.

REFLEXES OF DENTAL ORIGIN

BY DR. VAN STRATUM.

(Le Scalpel, Paris.)

The dental pulp and the alveolo-dental periosteum are enclosed between rigid walls; the pulp being surrounded by the internal surface of the dentine; and the alveolo-dental periosteum by the external surface of the cementum and the internal surface of the alveolar wall.

The result of pathological processes, such as hyperemia, inflammation, or suppuration would be a compression of nervous filaments. This irritation will result in reflexes in different parts of the body which are more or less distant from the cause. To conclude a relation between the cause and the effect between a dental lesion and another morbid phenomena, it is necessary that the morbid phenomena *even rebellious* to all other medications, should disappear quickly after the suppression of the dental lesion. This has been demonstrated very plainly in several cases.

Hutchison (1885) mentions a case of lagophthalmos caused by the spasm of the levator-palpebrae superioris which rapidly disappeared after the extraction of a diseased tooth.

Vossius (Archives fur Ophthalmologie, vol. 23) speaks of a case of exophthalmos caused by the serous infiltration of the ocular tissues which was rapidly cured by the suppression of a dental lesion.

I will also mention facial pains, ears, neck, and shoulder. As reflex motors, I will name convulsions of the chorea caused by difficult dentition, torticollis of which several cases were noticed by Brubaker; facial paralysis, paralysis of the arms, paraplegias and even cases of hemiplegia.

Naturally these cases are extremely uncommon.

The most common of these nervous reflexes in connection with dental lesions are facial neuralgia, and cephalalgia.

This question has been of special interest to Lander Brunton, for he suffered himself with temporal neuralgia and sensibility of the ocular globe which was caused by denuded dentine of the third lower molar. He states in *Saint-Bartholomeus Hospital Reports*, vol. 19, and in *Disorders of Digestion*, that cephalalgia is so often the result of dental lasions that in such cases he always starts by examination of the teeth.

It is advisable to follow this rule in many affections which resist to the usual treatment.

LEUKOPLAKIA BUCCALIS OF NON SYPHILITIC ORIGIN

(Le Monde Medical.)

There is a tendency to consider as syphilitic most cases of leukoplakia buccalis. We know that under that name is designated (Brocq) an affection characterized: First, by the development in certain points of the mucous membrane, especially on the dorsal surface of the tongue, and on the buccal surface of the cheeks and lips by patches which are more or less pearly-white or bluish-white and thick, having a slow and gradual evolution; second, by superficial alteration of the adjoining mucous membrane which undergoes a process of chronic inflammation.

Several recent observations seem to have peremptorily established that in certain cases leukoplakia is entirely independent of syphilis. Six cases have been reported in the *Centre Medical* (July 1, 1907), by M. de Ribier, which are quite applicable to the subject.

The first case was that of a physician, age 31, affected with arthritis; the second a man 30 years old, also affected with arthritis and son of an arthritic; the third a physician of 30; the fourth a physician 65 years of age; the fifth a young girl, maiden, daughter of arthritic parents; the sixth a man 67 years old.

No traces of syphilis could be found in any of these cases. We therefore must classify leukoplakia into two classes: syphilitic-leukoplakia and arthritic-leukoplakia. The treatment is divided into (de Ribier):

(a) *Prophylactic*: The use of tobacco and alcohol are to be prohibited entirely. No acids, salads, pickles, etc., very little wine highly diluted in water. Recommend practice of dental hygiene, removal of all bad roots. Use of mineral, alkaline or arsenical waters.

(b) *Curative*: This word cannot be used in this case as leukoplakia is incurable.

(c) *Palliative*: Mineral waters (Saint-Christian), *Sources des Arcesux*, as a mouth wash or internally. Treatment at Hot Springs. *This is the only medication which would give marked improvement, and give some relief.*

ORIGINAL CONTRIBUTIONS

TOOTHsome TOPICS.

BY R. B. TULLER, D. D. S.

The week's end—and beginning.

Our old friend, Dr. A. Dub. Chumpley, D. D. S., has had another vacation experience.

He didn't go hunting tame wild geese, nor in a Pullman, but he did encounter another embarrassing romance. It was a week's end affair not far from Chicago.

You see, Dub has been interesting himself in a bit of femininity, whose father is a well to do farmer out Elgin way.

She invited Dub to spend a Sunday at the farm, she to meet him where he left the train at X—— with a conveyance and take him over to the farm some four miles. A nice pleasant drive—but not for Dub.

The N. W. road reaches Lake Geneva by two routes, one by way of West Chicago, thence to the lake. By this route the Rockford train out about 4:30 p. m. takes a Lake Geneva car to W. Chicago. There it drops it and a train made up at that point takes it to the lake. Dub, on the Rockford train, did not know this, and strolling through the train unwisely got himself and traps into the Lake Geneva car; and at W. Chicago he was so absorbed in a magazine story that he did not know his car was cut off; nor did he "catch on" until a new conductor told him the part of the train he belonged in had gone on and left him. He told him that the only thing to do was to get off at Elgin and take the next Rockford train.

That was easy; but it began to dawn on Dub that he wouldn't be at X—— on the train expected; yet, he thought, there would be some way out of the mistake without serious consequences. He reckoned unwisely, as he knew nothing of the lay of the land there. Anyway he'd go to X—— and work the thing out there. Perhaps Nellie would presume that he'd be on the next train and would wait, or come

a second time. If not, he'd go to a hotel or hire a livery and drive over. Oh, it would come out all right, surely.

He found that the next train, a mixed affair—passenger and freight—would be along about 8 o'clock and be at X—— about 30 minutes later. As he strolled up and down the platform about 8 o'clock these lines of "the poet" kept going through his head, "I don't know where I'm going, but I'm on my way."

When at length he got to X—— he dropped from the coach, and looked about for some signs of life, some station house, a bus, near-by shops, a hotel or at least the usual saloon; but, alas! he was alone and in absolute silence, and darkness fast closing down. In the west there were a few dim rays of the sun some time below the horizon, puncturing the edges of some very black threatening clouds. The only other signs of light were one little twinkle 'way off yonder, and another farther off in another direction, and a green light or two in either direction up and down the track—switch lights.

Dub was puzzled—beat. "What kind of a dum town was X——, anyway? *Where* was it? If off a little ways, where was the bus? Where was the station 'itself'? Town? Station? It was just this: a milk station—a platform only; and a siding paralleled the main track. What was he to do? What was he up against? Nothing—but a very perplexing situation, a dark night and a fast approaching storm."

He noted a small light approaching, apparently along the track. It proved to be the lantern of the man who attended to lighting up the switch lamps; and that same man was an Irishman. As he approached closely Dub cheerfully said, "Good evening," which evidently startled the man. He raised his lantern and discovered a young city chap done up in about the latest of glad rags, a fancy straw hat with variegated band, a light top coat, kid gloves, one of which was holding a cane and the other a natty seagrass suitcase. His creased pants had 4-inch turn-up cuffs exposing some lavender silk socks, the *tout ensemble* standing in a pair of giddy low tan shoes.

"W'at th' 'ell! Where did ye drap from?" was Pat's greeting. "Oh, was it you No. 9 stopped here fer? And who do you be wantin' to see here?"

"I want to find a hotel or livery!" said Dub. "Where is yer town, anyway?"

"Hotel? Livery? Town? Why man, where do ye think ye are?"

The nearest town is Elgin, an' ye can find them things there,—not here. This do be X——, milk station, an' a divil a bit else will ye find here but pastures and fields an' the bogs over yon."

"Well," said Dub, "what I want is to get to the Wilder farm. Which way is it, and how can I get to it?"

"'Tis four mile away, an' ye can't get to it tonight."

"Then I must find some place to put up until morning," said Dub.

"Now, me bye, that's about as hard as gettin' to Wilder farm," said Pat. "Across the fields, yon, is Buckton's, but ye wouldn't want to stay there if they would find a place for ye. Larson lives farther, and across the bogs, an' ye couldn't get there, an' me own shanty has but wan room fer mesilf an' fam'ly av wife an' seven."

Then Dub spoke of hiring a farmer, anybody, to drive him to Wilder's. He'd pay well. But he was told that for various reasons it was out of the question.

A gust of wind nearly took away Dub's hat at this point, and brought a few scattering rain drops, while intense blackness (barring the dim lantern light) enveloped them.

Dub thought he'd take the next train back. Pat told him the only train he could get either way was in the a. m.; one would pass towards Chicago about 6 a. m.—the milk train. Dub thought of a trolley, but Pat told him the trolley men had been on a strike for several days, and had torn up portions of track. Nothing doing there.

"What the —— am I going to do?" exclaimed Dub, to which Pat made this consoling comment:

"Well, now, if ye had come on the regular train, sure here was Miss Nellie Wilder wid her own phaeton waitin' fer some one, an' went away alone. Ye are in a bad fix. If ye had an umbrella now, instead av that twiddly stick, ye'd be better off in a rain, an' it won't be long holdin' off. The only place Oi can think of that might shelter ye a bit, is a gondola on the siding up there about forty rods. Ye might get under that. It had bricks in it, and No. 13 ought to be pickin' it up tonight to take her back to the yards fer another load; so don't be goin' to sleep under her."

At this moment a flash of lightning came, then a fresh gust of wind and with a roar of thunder came big spattering drops. Pat, already too much delayed, bade good night and hurried away, while

Dub hurried the other way in search of the car. After much stumbling he at length found it and crawled under its sheltering proportions, and then down came the rain in torrents.

Now, it wasn't very long before it began to drizzle through flooring well colored with red brick dust; but of this red paint Dub was not then aware.

Every moment it rained harder and harder, and it blew in all directions so that Dub soon found himself thoroughly saturated. His straw hat was hanging down over his ears, and the back edge conducted a stream directly into the back of his neck. His position was cramped and realizing that he couldn't be any wetter, he got out and stood up and just let the elements souse him as they willed.

Then he thought of his suit case. It wasn't made to shed water, and it didn't. When he pulled it to him it had gained in weight from ten or fifteen pounds to fifty. This was due to the contents holding their due share of the heavenly juices. In it he had the usual outfit of underclothing, "pejams," extra clean shirt, collars, cuffs, handkerchiefs, socks, toilet articles, and a handsomely bound volume inscribed on the fly leaf, "To Miss Nellie Wilder, from an admiring friend, Dr. A. Dubkin Chumpley." Oh, yes, and there was a five-pound box of Allegretti chocolates, for Nellie. Num-num! Well, no, I hardly think so; not after the storm had had its fling.

Poor Dub! he was up against it—the car—and thinking a whole lot of unmentionable things. One think he thought and rethought, and then some, was that his journey to the farm where his lady-love was, was now postponed until another and more propitious time; provided, any reasonable explanation could be made to ring in a chance for some other time. Dub was dubious; but not about the facts in the case—suit case. What now was the color and condition of his white flannel suit? What's the answer? Simple enough: "I have no *white* flannel suit." And Nellie's book? Nellie never had no book—no such book. This particular book Dub took out and felt its embellishments of sugar, cream and water, and he threw it as far as he could into the darkness.

His flannel suit and other masculine lingerie he hung up on the side of the car to dry—no, to soak, and leach. He felt for the box of candy. He found the box pulp and something like ice cream or Charlotte-russe, the russe composed of comb, tooth-brush, hair brush

and a cake of soap. He hung the suit case up to dr—to drizzle—and prayed for more rain. His prayer was answered promptly with compound interest. Talk about your blue Monday; this was chocolate Saturday night—nearing Sunday. Some people wash on Saturday instead of Monday. Dub did—in a way—but was a little late taking in the things off the line. After the heavens had done what they could for him, he gathered the wash in his sea grass clothes basket, and put off the ironing until he could see better. Then he tried to wring himself out, but only took the crease out of his trousers all the more.

By this time Dub was tired—tired of the whole thing, even his twiddly stick, as Pat named it, which afforded no shelter when put to the test, and he broke it in two and threw that away. He was disgusted with life—such life. He was sad and sorrowful, and the elements were in sympathy with him, and wept harder than ever.

But all things have an end—but, not yet. With it all Dub got sleepy; so sleepy that he resolved to sleep, whatever happened. Taking his grip he clambered into the gondola, and under the shelter of its rough but rugged sides (that keep the brick from falling out), and with his nice soggy grip for a pillow, he soon was sleeping swimmingly, and muttering in his sleep, "Come on in, the water is *fine*."

When Dub awoke the early rising sun was shining in his face, and he was looking up to a blue sky. He soon pulled himself together and raised up to see what X—— looked like in daylight. What was his surprise to find himself in a brick yard. Sure; he had slept so soundly that his car had been picked up in the night, and no doubt with many a jolt and bump, had run miles and was shunted to a brickyard and quite as far from no place as X——.

It took some time to comprehend it, but he finally came to a sense of the fact that he took lodging in X——, that he departed from there between two days, and that he owed for both lodging and transportation. Of course this smote his conscience, and instinctively his hand sought his pocket; but it was so wet he couldn't get his hand in. He then took a Ch. Sci. view of it, and just *thought* the debt was discharged, and, lo, it was so. But when he turned the mind cure onto the deplorable situation, it wouldn't work. He thought dry clothes and comfort; but they clung with a very disagreeable clammy wetness, and his fancy tan low-tops, felt like mop rags on his feet.

Seeing is believing; and when he found he had on a *variegated* top coat, red predominating, he made a good guess that it was no dream.

Now, what was to be done? The rain had passed and Old Sol was getting hot. Why not utilize it to dry his clothes; but first he made a tour of the yards to see if possibly he could find some sympathetic being to give him advice and assistance. It was deserted, and no habitation was in sight, except at a long distance.

He returned to his gondola, but he realized he was not in Venice. Soon he was as was Adam in the Garden of Eden; but he was only Dub in brick-yard. And yet, like Adam, he wasn't satisfied; nor was he contented. He was both very hungry and very thirsty. He had no thought of finding food; but water ought to be plentiful. But about all he could get to, was in a clay hole; somewhat roilly and stagnant, but wet. Wet water he must have at all hazards, but the clay hole was not easy. He had reveled in water and got the habit. The only way he could get to it was to lie on his stomach and jam his hands into the mud and hold back. He got to it; but when he was inclined to retreat, his hands would not come, but went further in. He made a fight for life, but soon the contest ended by Dub going in all over. It wasn't so bad, he thought, but when he got righted and tried to get ashore he found himself a prisoner for keeps. If he could detach one foot from the mud, the other sank deeper, and the bank was a wet shiny toboggan that promptly skidded him back. The commotion churned the water into tinted calsomine which clung like paint dip. The joke was going a little too far, and things became decidedly serious—desperate.

Then, hark! he heard voices. They seemed feminine. They were. They were wonderingly discussing his array of clothing spread to dry on the gondola. He felt he was not in any position or condition to meet ladies; but that did not restrain him shouting as he sought a depth to hide his embarrassment.

In response to his yell, two dark Dago women heads appeared in sight. "Oh, looka da man squim in a da mud!" exclaimed one in astonishment. "Nota fer us to look. Come," and they started to go. Dub's frantic yells, however, brought them back and they finally realized that, "da Yankaman" needed help. One disappeared and at length returned with a long board strip, which they extended to Dub; then with their back turned they pulled him out, and fled to a

brick shed out of sight, but leaving behind two baskets of fresh plucked mushrooms which explained their visit to the vicinity, some distance from the Italian "patch" where they lived, the homes of the brickmakers.

Taking advantage of their thoughtful absence, Dub returned to his chariot, the high side boards of which shielded him from view if he got on his knees. He was about the color of clay, and it was quite impossible to put on his clothes in such a condition, even if they had dried. Just what to do with himself, now he was saved, he did not know, and he had half a mind to go and jump in again, and put an end to his misery of body and mortification of spirit.

The two women had "peeked," and now felt they could come out and secure their baskets of edibles, yet it was with some hesitation, since they hadn't settled in their minds whether or not the Yank-a-man was crazy. How came he to be in such a predicament, if sane? They understood and spoke but little English; however Dub succeeded, largely by pantomime, in getting them to understand that he needed help. To emphasize it, and to try and imply that it would be rewarded, he dug laboriously into his pants pockets, pulled out his purse, and displayed some money. One of the women dropped her eyes and walked away. The other stood, somewhat uncertain until Dub pointed to a farm house some distance away, and said, "Go bring; go bring. I giva da mon." This was understood (because he spoke Italian); also that a conveyance was desired, and with this pointer they departed. Later a farmer and his lad drove into the yards.

"Well, now, what in Tunket be yerr a-doing here in sech a predicament as this, young feller? Yew look as if yew had been soused in the mud. Maybe yew been doin' something wrong, and got cum up with," was the farmer's comment. It took some time to tell the story, since it had an improbable sort of a look to much of it; but with the assurance of pay, Dub was invited to gather his traps, wrap a horse blanket about him and get into the wagon.

Now, Dub's ride for a mile in that coarse horse blanket on a hot day wasn't the most soothing to already injured feelings, and he was kept guessing whether it was the coarse texture of the blanket or fleas that made him nearly beside himself; but he didn't squeal.

On the way they passed the dark skinned women, who looked expectant, and Dub willingly and with thanks, handed out to each a

bright silver dollar he found in his trousers. They replied with smiles, and "Tanka for da mon." One yelled after him, "Gooda man—not craze. Goodbye."

Dub was driven into the barn and a pail of water was brought from the well, together with a sponge to enable him to wash off the clay. Then a night gown that had ruffles on it was brought him, and a pair of old slippers. In these he made his way into the house, and was assigned to a bedroom, and the farmer's wife, a kindly woman, took charge of his outfit of clothing to see what could be done to put them in some order. A good breakfast of fat salt pork and potatoes was served him, after which he felt more in comfort and ease than he had felt for many hours. He soon went to sleep and slept till Sunday dinner. As this time approached the old man brought him a pair of his pants, and told him to tuck the night gown into them and come to the table.

What was Dub's surprise and embarrassment after he had got seated to see two handsome young ladies walk in from the porch and take seats opposite. One was introduced as "My darter, teachin' school in Chicago," and the other her friend, Miss Hope Thornton, who had come out for the week's end. Dub thought Miss Thornton looked a little familiar; and when she said, "Oh, yes, I ought to know Dr. Chumpley—we live in the same block"; he was quite convinced he had seen her, and met her at some social affairs. Dub's face got red and he almost wished himself back in the mudhole, and the girl's suppressed titter and amusement didn't make him feel any more comfortable. Imagine Dub with a night dress on, ruffled around the neck and up and down in front and at the wrists, all big and roomy, and you can understand that the young ladies were quite ready to explode. Only extreme good manners prevented. Then, later, when the good old lady insisted and piloted him out onto the porch, where pa's pants of old homemade vintage showed off to advantage—it was great. Dub surely felt like making for the lonesome brick yard. But before the day was over he found himself, still en costume a la makeshift, walking adown the lane with Miss Hope all to himself.

On an early Monday train all three, Dub and the young ladies, came into Chicago, Dub having given the kind farm-wife a ten dollar bill for Sunday work on his clothes to make them possible to get home in; and now he thinks it is decidedly easier and less uncertain

to meet Miss Thornton at her home or in the park at the week's end or beginning or middle, than taking a country outing to Wilder farm. In fact, he found it too hard to explain how he failed to keep his week's end engagement with Miss Wilder.

To me Dub looks greatly subdued.

TOOTHACHE.

Very small doses of nitroglycerin are asserted to give at least temporary relief in pulsating toothache.—*Med. Coun.*

REPORT OF A CASE: "PLATE WITH FALSE TEETH IN SIGMOID."

BY DR. SAMUEL T. EARLE, JR., OF BALTIMORE, MD.

Mrs. F. H. D., the latter part of August, 1907, while eating ham, swallowed a plate with two false teeth. Ten days later she had a violent attack of pain in the abdomen, followed by a chill and fever; there was no recurrence of this for one and a half months. Since then they have recurred from time to time, but not as severe, nor have they been attended with chill and fever. A skiagraph taken of the lower abdominal and pelvic regions showed the plate in the sigmoid flexure of the colon, on a level with the promontory of the sacrum. Examination through the sigmoidoscope brought them into view at the point shown by the X-ray. There was considerable tenesmus, and the passage of a good deal of mucus, also a tendency to constipation. Under the influence of two hypodermics of morphine, gr. $\frac{1}{4}$, hyoscin hydrobromate, gr. $\frac{1}{100}$, and cactina which produced satisfactory anæsthesia, Dr. Earle was able to grasp the plate, through the sigmoidoscope, with a pair of long alligator forceps, and withdraw it immediately behind the sigmoidoscope.—*New England Medicine Monthly*.

"MOST IMPORTANT MECHANICAL AND CHEMICAL PROPERTIES OF SILICATE AND ZINC-PHOSPHATE CEMENTS."

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(Continued from August.)

The figures of the table give us therefore an approximate measure for the possible clinging, and, with it, indirectly, for the sticking capacity of the several cements. Further tests otherwise arranged which I have at present in hand and in which I hope to render the hygroscopicity of the ivory harmless,—for I must use ivory, in order to approach dentin,—will enable me, after some time, to publish exact figures about the sticking capacity and a possible adhesiveness of the cements. I hope then also to be able to give to the profession a careful description of the structural conditions of the examined cements, and further investigations about possible changes in their volume during and after the hardening.

CHEMICAL PART.

I pass now to the second part of my paper, and will discuss the results of my investigation, regarding the solubility of the cements in acids.

About the rating of the cements by tests of their solubility in acids, much has been written and there has been much difference of opinion. The acids act under no circumstances in the mouth as in these tests, else within even a year nothing would be left of the teeth, as I am able to prove. One has always to keep in mind that by the stimulus of every food that enters the mouth, especially of the food containing acids, the secretion of saliva is strongly incited, so that the acids are almost instantly neutralized and diluted by the abundantly flowing alkaline saliva, and besides, by the spontaneous swallowing motions, due to reflex action, are quickly removed from the oral cavity and are therefore rendered harmless. To this we must add the fact that, in the mouth of an adult person, normally about $1\frac{1}{2}$ litres of saliva is secreted within 24 hours.

Nevertheless, for the purpose of comparison, and in order to find a standard, I determined the solubility of the cements selected by me in lactic and in acetic acid, these being the acids nearest the natural saliva. I suspended samples that had been lying in the saliva and water for sixteen days, after exact determination of their weights, en-

closed in silk bags, in 0.5 per cent solutions of lactic acid and of acetic acid.

I selected that kind of suspension, so as to avoid a saturation with the dissolved substances in the neighborhood of the samples.

For if the dissolving liquid in the neighborhood of a body whose solubility is to be determined, is saturated with dissolved substances, the non-saturated liquid can of course not attack and remains inactive until the dissolved substances have been washed away.

I avoided the former, and attained the latter automatically by that suspension of the samples. The substances dissolved in the neighborhood of the samples, being specifically heavier than the dissolving liquid, sink to the bottom, and the unsaturated liquid can attack afresh. There arises, to some extent, a system of currents in the liquid, similar to what occurs at the dissolving of sugar or salt in water, where the currents can sometimes be seen with the naked eye.

It interested me to find out, by way of comparison, how the natural dental enamel behaves in acids of that degree of concentration, whether and to what extent it is also attacked.

For this purpose I used perfectly intact canine teeth, I nipped the crowns off at the root, near the cement border, split then frontally and took all dentine carefully out with a rose drill, so that only the thin enamel casing was left.

Some parts of this enamel casing were carefully weighed and suspended in 0.5 per cent lactic, and 5 per cent acetic acid.

After 24 hours I took the samples out,—by such stirring there was caused in the case of some of the cement samples for a moment a cloudy turbidity of the liquid,—I brushed them off with a clean toothbrush moistened with water, let them dry for a while and determined their weight anew.

Arranged according to the loss of weight, the result was: Losses in 0.5 per cent ic solution of lactic acid.

	Absolute loss of weight, in mgm. Loss in %	
Ascher's Artificial Enamel.	7.7	7.1
Astral.	8.7	8.0
Harvardid IV.	8.8	8.3
Schonbeck's.	10.3	28.5
Achat.	21.1	11.6
Agate.	21.1	11.6

Smaltid.	10.3	28.5
Harvard Cement.	21.1	12.5
De Trey's.	21.7	11.7
Speier's.	22.5	12.3
Hoffmann's.	23.7	22.7
Harvardid III.	23.9	21.3
Lynton.	24.4	16.3
Wolfson's.	34.8	29.7
Natural dental enamel.	21.0	28.5

The natural dental enamel fares therefore in both cases almost worse than the worst cement, and this result of the investigation is conclusive proof that the heretofore customary rating of the cements by examining their resistance to acids was not the right way.

I had therefore now to answer the question, how it happens that so many, one can even say, after the present practical experience, that most of the cements, after a more or less short time, dissolve in the mouth and are consumed, whereas the dental enamel remains intact.

After the above result of my investigation, the acids cannot be absolutely responsible for it, and we know likewise of the alkalies from innumerable tests, that they, in weak concentration, have absolutely no influence, or, upon some of the cements, only a slight dissolving influence.

As I have already mentioned, the salivary glands in the mouth of a healthy adult man secrete about $1\frac{1}{2}$ litres of saliva. That is certainly a factor which must be taken into account, which could therefore not be left unconsidered and unexamined.

Saliva is chiefly a watery liquid, and we know of water that sometimes it can be by far the best of all solvents.

My task was therefore to investigate what influence saliva as such, that means as a fluid watery medium, exerts upon the cements, in order to answer the question which I had put to myself.

I made three equally large samples of every cement. After three hours' trying, they were in thin tubes covered with a trace of water and were thus left for 48 hours, so as to allow the hardening process time to finish; after three hours' drying they were then carefully weighed, thereafter suspended in silk bags as in the previous acid tests, but were placed in pure water and the dissolving vessels were placed in the thermostat. The water was renewed twice daily, and the

samples, at the same time, when the water was changed, were freed of any dissolved but still adhering matter by means of a vigorous jet of water.

After about four weeks the samples were taken out, they were brushed off, dried for a while in the air, and finally again carefully weighed.

Upon arranging in accordance with the resulting losses of weight, I obtained the following table:

Losses of weight of the cements in water:

	Absolute loss of weight, in mgr.	Loss in %
Ascher's Artificial Enamel.....	—	—
Astral.....	—	—
De Trey's.....	1.7	1.1
Harvard Cement.....	2.2	1.4
Schonbeck's.....	2.5	2.4
Harvardid Improved IV.....	2.6	2.8
Agate.....	2.8	1.8
Speier's.....	4.0	2.4
Wolfson's.....	4.2	4.1
Lynton's.....	5.5	4.9
Harvardid III.....	6.4	6.7
Porcelainoid.....	10.1	11.7

This last test and the figures found in it are much more reliable for the rating of the cements in regard to their solubility, than any acid tests.

I am satisfied to let the tables which I have obtained speak for themselves, and will, in closing, only with a few words survey the general result.

An examination of the figures found shows:

The well-known silicate cements, even if their often praised esthetical virtues are left out of account, are chemically, in their resistance to dissolving agents like water and acids, decidedly superior to the zinc-phosphate cements and are in some cases considerably better; as to their mechanical properties,—of which I regret not to have been able to examine exactly the clinging capacity,—they represented in many cases, and the best-known silicate cement, Ascher's Artificial Enamel, throughout a very considerable improvement.



ABSTRACTS AND SELECTIONS.

SYPHILITIC MANIFESTATIONS IN THE ORAL CAVITY: PROPHYLAXIS, AND A PLEA FOR THE STUDY OF THE DISEASE BY DENTAL STUDENTS.

BY VICTOR C. PEDERSEN, A. M., M. D., NEW YORK.

Kindly permit me, Mr. Chairman and gentlemen, first to acknowledge very gratefully the honor bestowed upon me in the invitation to appear before you, as members of the Section on Dental and Oral Surgery and Hygiene, which branch is cognate and related to our own specialty more intimately than perhaps many might perceive; and secondly, to express with the deepest sincerity my recognition of the privilege and the responsibility of presenting the topic of the manifestations of syphilis in the oral cavity. We are dealing with a disease of insidious onset, of treacherous and uncertain course, and of quite incalculable damage to its victims, and through them to the race. So important, when its dangers are considered, is this disease that one is inclined to doubt whether a presentation of even this one field of its inroads may be made at all adequately in a paper of limited extent.

Doubtless the observation of the great syphilographer, Fournier, is correct, that syphilis is on the increase in all walks in life. This fact makes it important that every surgeon, physician, dentist, midwife, nurse, or other professional person frequently coming into contact with other individuals shall be aware of the frequency of the occurrence of syphilis, of its various manifestations, and of its ready communicability to others.

The object of this paper is to lay before you a brief description of the lesions which syphilis causes in the mouth. In the practice of your profession as dentists it is hoped that at least you may be put on your guard as to recognizing the signs and preventing the spread of oral syphilis. No effort has been made to review the cases of syphilis reported in medical literature as having been communicated

by dental and other instruments. Two cases are sufficient to illustrate dental infection. Both were reported by my friend Dr. Walter B. Brouner before the Medico-surgical Society of New York City in February, 1907.

CASE 1.—A housemaid, nineteen years of age, presented herself at a dentist's for treatment of a carious first bicuspid. Extraction was performed, during which the gum was torn by the forceps. The tear obstinately refused to heal, and slowly in the course of two or three weeks took on what the dentist called a "canker sore," for the treatment of which she applied at the New York Hospital Dispensary. The sore was really a chancre, and the inoculation had doubtless been made by the forceps, already previously infected.

CASE 2.—A young man presented himself with chancre of the lip, with the following history? A dentist while endeavoring to remove a molar from the upper jaw allowed the forceps to slip and cut the lower lip severely; the wound refused to heal, and in a short time developed into a typical chancre.

Here again the inoculation was doubtless made by an infected instrument. The writer has seen one case inoculated by a blowpipe and several by kisses.

Even a few such cases are enough to lay down the doctrine that no dentist is conscientious or truly scientific who does not thoroughly sterilize his instruments after use upon each patient. Among surgeons, boiling has been proved to be the surest sterilization, and therefore no dentist's equipment is complete without the means for boiling his instruments. Probably the dental instruments most likely to transmit syphilis are the excavating instruments, the exploring instruments, the forceps, the mirror and the napkins. Nevertheless it is much more "safe and sane" to sterilize everything. Mirrors are not to be boiled, but they may be scrubbed with green soap and hot water and immersed in 1 to 20 carbolic acid watery solution, which in ten minutes will destroy all of the ordinary agents of mouth-infection, including the syphilitic virus. Several sets of mirrors are still better, because one may be sterilizing while the other set is being used. Paper is the best form of napkin, and should be destroyed always after use. Syphilis is a systemic disease, and may therefore attack any and all of the tissues of the body in general, and any and all of the tissues of the mouth in particular. I shall

accordingly speak of syphilis as it attacks the lips, the gums, the tongue, the soft palate, the tonsils, the pharynx, and the bones.

In any of the just-mentioned soft parts the disease may show itself in its primary, secondary or tertiary form. In the bones only the tertiary signs appear, excepting occasionally when a chancre of the gum may extend its destructive effects to the periosteum and the bone beneath. As a rule which has the very fewest exceptions, syphilis manifests itself in three general processes, viz.: hypertrophy, or thickening (technically called induration); ulceration, or necrosis; and atrophy, or cicatrization. Therefore one might say that the safest proceeding for the dentist to follow would be to regard with suspicion any lesion of the mouth partaking of the form of an otherwise unexplained pimple, ulcer or scar.

THE PRIMARY SIGNS OF SYPHILIS IN THE MOUTH.

First—Chancre of the lips occurs not infrequently, and particularly in the victims of tendency to cold sores, cracked lips, eczema, and other conditions involving the breaking of continuity in the skin or the mucosa. Consequently they are a little more common at the corners of the mouth and the middle of the lower lip, and either on the vermilion border, on the inner border, on the vermilion border and the skin together, or on the skin alone. Their very frequent association with cracks and cold sores causes them to be frequently overlooked until they are fully developed. Any lesion of the lip which has been obstinate in healing, or which having healed after some delay leaves behind it even parchment-like thickening, should be watched as possibly a chancre. Corroborative indication is furnished by a lymphadenitis—bilateral, although occasionally more marked on the side nearer the chancre.

Chancre of the lip in full course goes through the three processes of syphilis, viz., of thickening (often, but not always into a papule), of ulceration into an open sore which usually has a peculiar appearance of varnished raw meat, and finally, of slow healing with loss of substance and scar-formation.

Second—Chancres of the gums and of the mucous membrane over the hard palate are, according to Taylor, very rare, yet one of Dr. Brouner's cases was of this type. The writer remembers a case of chancre of the mucous membrane over the hard palate in a young prostitute which was of origin *contra-natura*.

A colleague has stated to the writer that he saw one such chancre

caused by a straw at a cider party which was passed by a syphilitic patient to the victim.

From a dentist's view, the frequency of tartar, of masses of food particles, and of other infected and irritating material at the base of the teeth makes the presence of any ulceration there extremely important. Doubtless owing to the fact that the gum is fairly closely seated upon the bone and the teeth, the only direction the thickening may take is an outward one, thus constituting the form of chancre called the *ulcus elevatum*. Therefore any raised, thickened, raw "varnished" sore on the gums or over the hard palate should be treated with the utmost caution. On account of the likelihood of infectious material finding lodgment at the base of the teeth, such chancres are very likely to undergo mixed infection and to ulcerate, with loss of their typical raw-meat appearance, until cleaned by the observer.

Enlargement of the lymphatics in chancre of the gums occurs in the sublingual submaxillary regions and is rather easy of detection. In chancre of the gums of the upper jaw and of the mucous membrane of the hard palate, enlargement of the lymphatics is at first localized deeply behind the pharynx, and is therefore very difficult to reach with the finger. Double care, therefore, should the dentist pay to any lesion in those localities.

Third—Owing to the highly soft and muscular characteristics of the tongue, chancres thereon are not specially characteristic. A similar condition obtains for the same reason in chancre of the external female genital organs, mentioned for the sake of comparison and of proof that induration about a chancre may be very slight or even absent.

Since inoculation commonly occurs through kissing and the use of various utensils, the points of the tongue commonly attacked are the tip, the sides, and the dorsum—rarely the ventral surface or the base. As unimportant conditions of the tongue like bites and canker sores are so common, the early stage of chancre is very rarely recognized, so that the thickened spot or papule has already become an ulcerated sore before the diagnosis is made. The beefy red varnished surface of these chancres is usually not perceived until after they are cleaned with a bit of gauze, thereby removing the peculiar milky-white pellicle due to mixed infection. Thickening or induration about the chancre is highly variable, sometimes being hardly per-

ceptible and at other times being extensive. Again, enlargement of the lymphatics in sublingual and submaxillary spaces on both sides is a diagnostic aid.

Cancer of the tongue is to be distinguished from chancre and also may begin as a papule, but is a little more apt to encroach first upon the epithelium, causing a warty appearance, whereas chancre appears at first slightly deeper than the epithelium in its situation. The lymphatic enlargement in cancer is usually on the affected side. Lancinating pains occur in cancer even before ulceration, but this symptom is absent in chancre, at least until necrosis has advanced far toward destruction of the chancre itself.

Fourth—The variation in the form, size and condition of the tonsils is so wide in different persons that chancre of the tonsil scarcely ever possesses an appearance at all typical. Thus a chancre may be localized in one of the crypts and remain rather circumscribed, or it may involve not only the tonsil as a whole, but even the surrounding tissue. The degree of thickening may be very slight or it may even resemble cartilage. The tonsil may be slightly enlarged, or again, so greatly enlarged as to touch its fellow and displace the velum forward. The surface may present the usual varnished redness, or may be covered by a milky-looking membrane, or a silvery to a dull greenish one.

Early in the stage of ulceration these chancres become more or less infected with the flora of the mouth and of decomposing food-stuff, and therefore in them pain is an earlier symptom than in other chancres. Likewise the lymphatic enlargement is very rapid in its appearance and painful in its character, and the glands early lose the discrete separable and movable condition typical of purely syphilitic lymphadenitis. It is the mixed infection from the mouth that causes these changes. It is probably well to regard as syphilitic any open lesion of the tonsil which cannot be otherwise adequately explained.

Fifth—Chancre of the pharynx is very rare excepting in degenerates, although its rarity may also be accounted for by realizing how difficult would be the diagnosis before the secondary signs have appeared. Like chancres of the tonsils, they become infected by decomposing foodstuffs and soon become atypical.

It is believed that the foregoing outline gives the salient features

of the primary lesion—namely, the chancre—as it attacks the oral cavity, thus completing the first part of our subject.

SECONDARY SIGNS OF SYPHILIS IN THE MOUTH.

For the sake of brevity the mucous membranes of the mouth will be considered as a whole, so far as the secondary signs of syphilis therein are concerned.

Two stages are recognized, the hyperemic and the hyperplastic.

First—Erythema or hyperemia of the mucous membrane of the mouth, excluding the tongue, manifests itself, resembling in time and degree the same eruption of the skin in syphilis. It is induced in the oral cavity by such local causes as smoking, changes in temperature, and a catarrhal diathesis. It is usually confined to the pillars of the fauces, the soft palate, and the pharynx. While closely resembling the redness of an ordinary cold, it has the peculiar feature of a very distinct line of demarkation between the normal and the diseased mucosa, resembling slightly in this particular erysipelas of the skin where the normal and the diseased skin abruptly join each other. A positive diagnosis is frequently impossible excepting in the light of the history of the case and of the presence of other signs of syphilis, particularly enlargement of the lymphatic glands on both sides of the neck wherever accessible to the examining finger.

Second—The mucous patch is the first hyperplastic secondary lesion, and is the most common and the most dangerous syphilitic lesion of the mouth from the standpoint of the likelihood of communicating the disease to others, because as a rule it attracts little attention from the patient. It occurs on the lips, the gums, the tongue, the soft palate, the tonsil, and the pharynx. In “cupid’s bow” mouths with deep natural folds at the corners they are especially common and obstinate where the skin and mucous membrane join in folds at the angles. On the cheek, wherever a tooth presses or cuts, there a mucous patch is sure to appear. Likewise where teeth indent and irritate the margins and tip of the tongue, there they are especially common. They constitute essentially a lesion due to irritation together with mixed infection. Therefore, where the mouth is subjected to the irritation of smoking, of alcohol, of highly spiced foods, and of carious ragged and broken teeth, these patches are particularly common and also specially intractable. Partially erupted teeth which permit packing and fermenting of the food between the gum and the tooth are also a very potent cause

of persistent patches. These syphilitic patches undergo as a rule the stage of slight thickening, during which they are raised a little above the surface, and then take on a peculiar opalescent whitish hue due to the proliferation of the moist epithelium. Frequently through irritation or mixed infection they ulcerate superficially at the center, where they are of a dirty red, varnished appearance, with slightly thickened whitish margins where the thickened epithelium is adherent. When wiped dry with gauze they soon exude a watery, shining exudate, which is highly infectious. The mucosa immediately about the patch is almost always slightly reddened.

The active and potent infectiousness of the serous discharge of the mucous patch must never be forgotten, and it is a factor to be reckoned with in the transmission of the disease. Medical literature is full of reports of syphilis of the innocent acquired through these harmless-looking patches by means of kisses, bites, needle pricks, instruments and the like.

Case 3.—The following case illustrates the uncertainty, treachery and persistence of the mucous patch. About a year ago a young lawyer applied to me with what appeared a chancre, innocently acquired. The element of doubt was sufficient to warrant waiting for the secondaries to appear—as they did, indeed, in about seven weeks. On account of his social standing and professional connections, he was actively treated by means of intramuscular injections of mercury, which in the course of three weeks dissipated all signs of the skin secondaries. The only mucous patch the man developed was around the root of a partially erupted and malformed third molar, where for many years he had had a chronic gingivitis, due to the packing and fermenting of the food between the gum and the root. This mucous patch absolutely resisted all forms of local treatment, and likewise systemic medication. I finally told him that it would not heal unless the tooth were removed. Following my advice, the tooth being removed, the patch almost immediately disappeared. Now, if the dentist who removed the tooth had not been informed that the man had syphilis, he might well have infected any number of persons with his forceps subsequently to the visit of this patient. The entire absence of all other secondary signs of disease might well have deceived any ordinary observer. Nevertheless, cases like this are very frequent, and beyond question are the source of many innocent cases of this disease.

In inveterate smokers larger patches involving the lining of the cheeks and much of the dorsum of the tongue are frequently seen. They are due to thickening of the epithelium, which becomes whitish as it does when touched with carbolic acid or silver nitrate. The tendency to crack and to ulcerate is particularly common in this more aggravated form of smokers' patch. They are usually quite obstinate and may continue long after the infection is apparently at an end through no cause other than a continuation of irritation of the epithelium.

We must next discuss erythema of the tongue, which may accompany that of the mouth and pharynx, and involve the tongue as a whole or may occur as more or less circular disks here and there over the back of the tongue. When the thickened epithelium is mopped off with gauze a raw varnished surface is left, or a plaquelike condition of the subjacent layers. Although highly suggestive of syphilis, this condition is not absolutely pathognomonic for the reason that in some chronic forms of indigestion much the same condition may exist.

Localized points of epithelial hyperplasia having a light or dark opalescent color may be found in the tongue; these are slightly raised above the surface and are rarely larger than a pinhead in size. Ordinary treatment will cause their disappearance, but occasionally they are intractable.

Mucous patches of the tongue—our next topic—are exceedingly common, and especially at its tip and sides where the teeth indent or irritate. Sometimes in the tongue of the syphilitic the hyperemia and hyperplasia are so intense and prolonged that much of the epithelium of the dorsum of the organ becomes thickened and whitish. Splitting and cracking of this epithelium takes place, causing great pain and annoyance, especially during eating. This condition is also called psoriasis of the tongue, ichthyosis of the tongue and leucoplakia. In the presence of other distinct signs of syphilis it is easy to see that this disease is its cause, but occasionally these peculiar conditions in the tongue arise so long after the other signs of syphilis have vanished that it is quite difficult to trace the connection beyond a doubt. Some authorities state that this condition of psoriasis of the tongue is the precursor of epithelioma, but epithelioma is more apt to begin in a more localized manner. The secondary lesions having now been discussed, we come to the tertiary signs.

TERTIARY MANIFESTATIONS OF SYPHILIS IN THE MOUTH.

Although the tertiary lesions of syphilis are much less infectious than the primary and the secondary, excepting such as develop precociously during grave syphilis; nevertheless, at the present time it is not possible to be positive as to whether or not a given tertiary lesion is inert. The tongue, soft palate and the pharynx are usually the three elements of the oral cavity attacked. Sclerosis or thickening is the first sign for description; it occurs usually in the fifth year of syphilis, and if neglected as to treatment it affects the organs superficially or deeply.

Superficial sclerosis may be confined to various points of the tongue or may extend over most of the mucous membrane. It has a parchment texture, therein slightly resembling an extensive parchment chancre. Injury and irritation from the teeth, and from smoking and similar irritants, cause ulceration. Deep sclerosis invades the muscles of the tongue as well as the mucous membrane, and causes at first pronounced and inconvenient enlargement of the tongue. Later on, when the hyperplasia recedes, atrophy of the tongue follows. During the stage of hypertrophy the teeth leave indentations over most of the border, and the body of tongue is divided into lobes marked off by fissures and rugæ in a way that is pathognomonic. If the tongue be pulled outward these fissures and lobules do not disappear, whereas in a similar condition of the tongue due to depreciated health they may be obliterated by stretching. If the thickening be palpated it is shown to be deep-seated and almost cartilaginous. The mucous membrane becomes of a peculiar reddish color, losing practically all its papillæ, and is quite smooth and varnished and is drier than normal.

Gumma is the second tertiary lesion for our attention. It is the tumor formation typical of syphilis and is peculiarly common in the tongue. A gumma is either superficial, a papule involving the mucous membrane only, or is a parenchymatous enlargement involving much or all of the organ. The superficial gumma ulcerates, leaving a small punched-out sore with vertical sides and a peculiar bluish-red base. The parenchymatous gumma begins in the muscle and connective tissue, usually as a small mass surrounded with distinct infiltration. This small mass grows larger and by degrees the nutrition of the center is lost, and breaking down occurs. The surface of the tongue over the tumor soon takes on a peculiar livid

red color, and then breaks through into the cavity beneath, leaving a hole of great size with overhanging walls and a dirty, sloughy, peculiarly reddish or bluish-red base. The hole is surrounded by a definite zone of thickening. When healing occurs in these ulcers much deformity follows—due, of course, to the cicatrix. Sometimes these ulcers are rapidly destructive of tissue, and much of the portion of the tongue may be cut off by it before the process is checked.

This condition may resemble and should be distinguished from cancer and tuberculosis.

While cancer of the tongue resembles gumma, it differs in commonly involving the mucous membrane earlier, and in giving rise to sharp pains even before the stage of ulceration. Cancer may be a warty excrescence; gumma never is. Gumma may be multiple or bilaterals; cancer never is. When ulceration begins in the gumma the tumor itself is consumed, whereas in cancer the infiltration and the destruction are coincident and persistent. Cancer usually fixes the tongue to the floor of the mouth as a whole; gumma does so very rarely.

Tuberculosis of the tongue and gumma are difficult to distinguish in many cases, as the two conditions may coexist. Fortunately, tuberculosis of the tongue occurs after other deposits which furnish the clue to the diagnosis.

Gumma of the soft palate is very difficult of diagnosis and highly destructive. The patient usually feels at the outset as though he had an ordinary sore throat, but suddenly finds himself deprived of the power of speech and finds swallowing very difficult. The voice becomes peculiarly nasal, and foodstuffs regurgitate into or out of the nose. Sometimes a localized thickening may be detected, which seems to be the commoner mode of invasion, but on the other hand the thickening may be diffuse, involving much of the soft palate. Here again, as in the tongue, death of tissue and open ulceration occurs, cutting away little, in mild cases, or much of the velum and the curtain of the soft palate in marked cases, or simply making an open sore upon the velum, also in mild cases. When the pillars of the fauces, the soft palate, and the uvula are destroyed, all means of shutting off the nose and the vault of the pharynx is lost; thus the voice becomes indistinct and nasal, and fluid and solid food finds its way into the nose, causing ozena and

purulent rhinitis. The hearing may become affected secondarily through affection and infection of the Eustachian tubes.

Perhaps the most remarkable feature is the end result of destructive gumma of the soft palate. One would expect that this enormous deformity would continue, much as just described; but it is far otherwise! What is left of the involved tissues is drawn upward and backward and slightly inward, so that in some cases a very small opening remains between the pharynx and the mouth through a newly-formed scar-tissue diaphragm. Occasionally complete atresia is present. Tuberculosis is the only other disease that can bring this about, but it is very rare that the patient survives tuberculosis long enough for this degree of cicatrization to occur.

Gumma of the pharynx with deep ulceration may be observed. Especially misleading are those situated almost out of view under cover of the margin of the soft palate. Gumma of the vault of the pharynx cannot be seen except by means of the laryngoscope. Extensive gumma is said to extend backwards, involving the bones and even the contents of the vertebral canal. When healing takes place the pharynx and posterior nares may be deeply affected in their size and relation.

In some individuals not only does the mucous membrane of the mouth, but the bones also partake of syphilitic involvement. The hard palate is particularly prone to this misfortune, and one sees single or multiple perforations between the nose and the mouth or an extensive destruction carrying away perhaps a quarter or a third of the hard palate in the middle line, so that the cavity of the nose may readily be inspected for a corresponding extent from within the mouth. It is needless to say that chronic suppurative disease of the nose is always present in these cases. Sometimes the maxillary bones as a whole may become involved, with entire death of the bone, leaving the periosteum intact from which new bone forms. More frequently, however, nodes due to gummata appear which follow the usual course of gummata, viz., central death of tissue followed by superficial ulcerations into a deep cavity which finally heals under proper treatment, leaving behind scar tissue, atrophy and deformity.

DIAGNOSIS BY THE DENTIST—TREATMENT.

The treatment of these syphilitic lesions is naturally the function of the medical man, and the more one sees of syphilis, as to its

insidiousness, its ravages, its uncertain, unexpected and various manifestations, its tendency to relapse in new and unforeseen portions of the body, and its inexplicable degrees of activity, the more is one convinced that the medical treatment belongs to the specialist and not to the family doctor. The treatment of syphilis, as Fournier says, comprises vastly more than the mere administration of mercury and potassium iodid. Other factors enter into the problem, and many of them must be considered, a knowledge of which is gained only by the specialist after years of observation, study and experience.

A large number, however, of these syphilitic signs are so intimately identified with the work of the dentist that he should be very certain of their nature and be able to recognize them on sight. The bone lesions of the mouth may readily come within the sphere of the dentist directly, not only in the matter of removing portions of carious bones but also in the matter of making plates and obturators for the correction of deformity and loss of substance. The medical man and the dentist should therefore work hand in hand, and all conscientious efforts should be exercised not only to alleviate the suffering of the afflicted, but also—and perhaps this is the more important aim—to avoid infecting the innocent.

As to prophylaxis—regarding the dentist himself: We always, in our own clinics and to our private patients, give printed directions to the effect that the patient must not only have his teeth thoroughly set in order, but must also state plainly to the dentist that he is a victim of syphilis, so that by taking every care protection may be afforded against this dreadful enemy of mankind. A committee appointed by the Paris Academy of Medicine, in 1887, to report upon the subject of the prophylaxis of syphilis, stated that a most important element in the prevention of this disease is to have all students in medicine competently instructed and carefully examined as to their knowledge of this disease before graduation. Since this is true concerning medical students, may it not be proportionately and fittingly true concerning dental students?

If this brief review of the diagnostic features of syphilis of the mouth serves to bring you to a realizing sense of the ravages and the gravity of this disease, and thereby to rescue even one fellow being from the dangers and disaster of syphilis, the labor expended in preparing this paper will have been rewarded a thousand-fold.—*Cosmos.*

**PATHOLOGICAL CONDITION OF THE MOUTH CAUSED BY
ARTIFICIAL DENTURES.**

BY AR. M. ANDO O. MORENO.

Read Before the James Truman Dental Society, Univ. of Pennsylvania.
FOR PRIZE COMPETITION.

Prosthetic dentistry requires good judgment, artistic taste and a very high degree of ability, as every case that comes to us during our practice demands careful study and a definite plan of procedure, because we never find two cases precisely alike. Artificial dentures may be constructed and adjusted to any or all mouths so as to restore the functions of mastication and speech, as well as natural appearance, into a degree approaching absolute perfection; but sometimes we find cases that instead of being of a useful character to the individual, may be instruments of discomfort, if not of torture, by constructing them upon a faulty impression.

By the insertion of an artificial denture, a foreign body is introduced into the oral cavity, and it may act as an irritant to tissues and organs with which it comes in contact. Artificial dentures are held in place by atmospheric pressure, by adhesion, by clasps, by spiral springs, or by permanent or immovable attachments to natural teeth or roots. Either of these may become the cause of irritation to the tissues and may result in serious disturbances in the oral cavity. Acute inflammatory conditions of the mouth, which appear with some degree of suddenness, may often be traced to persistent efforts on the part of the patient to obtain adhesion through atmospheric pressure, in a badly fitting denture, by powerful suction of the tongue in the effort to exhaust the air from the chamber; violence of this kind may cause occlusion of mucous follicles and the usual inflammation resulting from interruptions of the secretion. Also the rough conditions of the surface of the majority of rubber dentures, due to carelessness or want of skill in construction, is another causative factor leading to inflammation. As we all know, many facts favor the supposition that a great number of pathogenic micro-organisms may thrive in the juices of the mouth without showing in their vital manifestations any distinction from the common parasites of the oral cavity, as long as the mucous membrane remains intact. If, however, the tissues have been irritated and wounded, as in these cases, these organisms

may gain a point of entrance and thus become able to manifest their special actions, and this is one of the ways whereby some serious diseases are produced, as for instance: Stomatitis catarrhalis, ulcerative stomatitis, erysipelas of the mucous membrane of the mouth.

The first step in the treatment of this condition should be an examination of the plate to see if there be accuracy of adaptation; if the surface of the denture is smooth enough and in proper condition to be constantly worn in contact with the delicate tissues of the mouth; and finally, if the denture is free from deposits of food and secretions. A cure will be effected by the fulfillment of these conditions, and the treatment of the inflamed parts should be of local application of phenol sodique, thymozone, or listerine, diluted in the proportion of one part of the remedy to three or four of water. In case that any other serious disease has been developed it should be submitted to a special treatment according to the nature of the disease.

The pathological condition brought about by plates being retained in the mouth by means of ill-fitting and improperly made clasps. The result produced by clasping natural teeth is a loss of tissue, which occurs so frequently, either through caries, mechanical abrasion, electro-chemical action or by the action of these three together. The rapidity with which the disintegrating process advances depends largely upon the quality of the tooth substance, the condition of oral fluids, the form and size of clasps, the portion of the tooth embraced by them, and finally, the material of which they are made.

Painful mechanical abrasions are frequently caused when mere contact with natural teeth is the means adopted for securing stability to partial dentures. It has been observed that the effect of clasps upon natural teeth is always unfavorable, yet there are a goodly number of cases in which clasps are necessary, I should say indispensable, as for example, in cases of a lower partial denture to replace the second bicuspid and molars on each side, clasps are generally used, which are adjusted to the first bicuspid; the results are in most cases, caries of the approximal surfaces of the first bicuspid, which is manifested by great sensitiveness of the teeth, which become exceedingly painful when exposed to extremes of temperature and to certain kinds of food, as for instance, sweet or salt articles.

This reminds me of a case of an upper partial plate, fitted with clasps, that I have seen and which caused very serious disturbances to

the wearer. About five years ago, while I was an assistant in a dental office, a man about thirty-four years of age, suffering intensely from a severe case of facial neuralgia all along the left side of the face, presented himself for treatment. An examination of his mouth was made, and it was found that he was wearing a partial upper denture, carrying six teeth. This was held in the mouth by means of very tight clasps. The examination also showed that he was extremely negligent in the care of his mouth, as he had been wearing the plate for a very long time without removing it at all, and deposits of debris and food were found covering all the edges of the clasps. Upon removal of the plate it was found that there were small cavities in each one of the teeth clasped; a large cavity was found in the mesio-buccal surface of the second bicuspid. The salivary calculus and debris were all removed and patient directed to use mouth washes. The second bicuspid tooth was the first one to be treated; the removal of the pulp was performed, and after a few treatments the tooth was ready to be filled. In the meantime, the neuralgia pain disappeared; this cavity and all the others were filled with gold; after some days the clasps were fitted in a proper manner, the sharp edges filed off, etc., and the patient was again able to wear his plate with his mouth in a very healthy condition.

Caries is produced by badly fitting clasps, as they favor the lodgment between the tooth and clasp of particles of food mixed with the oral fluids, which cause fermentative decomposition and produce agents destructive to the enamel and dentine.

In order to avoid pathological diseases brought about by plates fitted with clasps, the following points should always be observed: Clasps should be accurately fitted to the broadest part of the tooth, which is found near the masticating portion of the crown, and never allowed to go near the neck of the tooth, as I have seen some cases of acute pericementitis caused by clasps left almost underneath the gums, at the very neck of the tooth, and exercising their pressure upon the pericementum; therefore, they should not be allowed to impinge upon the gums, because recession of that tissue and exposure of the cementum will result. The clasps should be adjusted with accuracy and in order to get good results half rounded and never with sharp edges, as this would cause the loss of enamel and formation of cervical caries, as this tissue is so thin near the neck of the tooth. I will men-

tion a method of clasps that in my opinion, I think, will give good results: In cases of lower partial vulcanite plate, the clasps should be made of eighteen gauge gold wire, doubled but not closed, fitted to the tooth on the buccal and lingual side, and the ends turned at right angles and vulcanized to the plate.

Clasps should never be employed in mouths of young persons whose teeth show evidences of a tendency to rapid decalcification, as the dentist himself must decide in these cases and avoid the use of clasps among those persons, even when the patient insists in having a small plate attached by clasps.

Therefore we must observe these few points and use a little skill and care in the design and construction of artificial dentures, as by these means we will prevent many serious disturbances caused by badly executed pieces of work.

We must instruct our patients as to the importance of cleanliness, and the proper means by which that result may be accomplished. We must remember that care in cleansing artificial dentures of whatever form, size or material is of the utmost importance. The cleansing must be done immediately after eating, and particularly before retiring for the night, especially in the case of dentures fitted with clasps. We must advise our patients to remove the plate each night and remove all deposits, especially those usually found on the inside surface of the clasps. If this be not done with care, debris of food mixed with saliva and mucus will form an inherent mass upon the plate, which will cause fermentation and decomposition, with the resultant irritating of the mucous membrane, producing a general inflammation of the oral cavity, accompanied by serious disturbances in the digestive function and followed by chronic diseases.—*Penn. Dental Journal*.

AMALGAM, THE KING.

BY THEODORE GREEN, D.D.S., RIDGWAY, ILL.

Amalgam will save more teeth than all the rest of the filling materials combined. Good fillings can be put in cavities difficult of access with amalgam where good fillings cannot be put in of any other material. Any cavity can be well filled with amalgam that can be filled well with anything else. Amalgam is the best

expression of a "universal" filling. If all the rest were wiped out but the "King" filling, we would still have a friend that would keep us. And why amalgam is the "king" of all filling materials is because of its inherent economy.

Its flow under the plugger to all the margins wedging the filling uniformly with each impact and its subsequent solidifying constitutes it an ideal economic; it is an answer to the requirements for a plug absolute.

I do not speak of the color of amalgam; color does not save teeth; first, let me eat, then I will try to look pleasant.

Metallurgists have done much to bring the color to meet the requirements and they have obtained a compromise that does them credit, and credits dentistry. Amalgam is the friend of the world against class dentistry. A poor man can afford to have his teeth saved with it. It is the friend of the operator who wants to accomplish the most good for his patients of limited means. Patients come to us with this query: "Doctor, I have just this much money to spend on my teeth. Please make the most of it." Then the "king" amalgam comes across to help us make good the trust. Amalgam, like all things of supreme merit, is decried. But whether the decrier is discredited, or the thing discredited which is decried, I leave to you. There is more in the man than in the metal. Truth appears to me a creature of light of whom the poorest of us may have an audience. And she "comes across" in queenly concessions to him who in worthy ministry seeks to serve the best. Wherefore preferred for various and obvious reasons. All filling materials take precedence in their elective places. Yet who will deny that amalgam is still the keystone to the triumphal arch of operative dentistry? The "homely-but-honest" still the favored servitor of truth.—*Dental Era*.

WEIGHTED DENTURES.

W. M. BARTLETT, D. D. S., ST. LOUIS, MO.

The subject I wish to touch upon is that of weighted lower dentures. This form of denture has been and still is advised by many in cases where we find the edentulous jaw flat, due to a complete resorption of the ridge, leaving no well-defined surface to stay the denture in position.

To obtain beneficial results in these cases it has long been the practice of many to give to the denture such an amount of weight as, with the assistance of gravity, is calculated to retain the denture in position during the movement of the jaw.

After a careful study of this annoying class of dentures, I have come to a positive conclusion that weight beyond that which is absolutely necessary in the construction of any given class of denture is a detriment instead of an advantage, as far as utility is concerned.

I can cite you a number of cases where individuals have come to me wearing weighted dentures which were constructed by competent prosthodontists. Some of them were made entirely by the cheoplastic process; others with cheoplastic base, the teeth attached by means of vulcanite; some with block tin bars imbedded in the body of the vulcanite, and others made of weighted vulcanite. It was the general expression that the denture was an annoyance, causing them considerable discomfort, not only during the process of mastication, but while speaking or in moving the head in any position varying from vertical.

If we stop to consider these complaints, we can see that they are well founded. First of all, general discomfort is no doubt due to the fact that the weight constantly reminds the individual of some foreign body in the mouth. If allowed for a given length of time to remain in one position, the weight, with gravity, is bound to produce a certain amount of irritation, which, though it be slight, is yet enough to cause on the part of the individual a desire to shift the denture from its bearings, and in course of time we find the individual acquiring the nervous habit of continually shifting the denture about in the mouth. Make a note of this and watch any of your patients who are wearing a lower weighted denture, and I warrant that you will find this to be correct.

During mastication I find that the weight tends to restrict the individual to only one movement of the jaw, and that is the hinge movement, producing nothing more than a mashing of the food. This is due to the fact that there is an unexplainable desire on the part of the individual to contract the muscles of the lips and cheek against the denture, with the tongue at the same time acting as a lingual brace, preventing a free use of the jaw in its lateral movements. You will find that when the head is moved from its vertical position the denture will always follow in the direction of the movement, so that if the head is moved downward while the jaws are not in the position of occlusion there is danger of the denture falling from the mouth.

If weight plays an important part in staying these dentures in position, then the ideal denture for these cases would be continuous gum. However, I have often heard the late Dr. H. H. Keith, of St. Louis, who was considered by all who knew him one of the most capable in this line, say that he seldom had success with a lower continuous-gum case where the ridges were resorbed, leaving a flat surface. Recalling these remarks from this eminent man led me to experimenting as to how to obtain the most beneficial results in constructing these dentures. My experiments have forced me to the conclusion, no matter how absurd it may sound to you, that the lighter they are constructed the more serviceable and comfortable will they be to the wearer. In constructing, the adaptability, proper articulation of the teeth and all other points that enter into thorough make-up should be considered. With lack of weight the individual is not always reminded of its presence to the degree that he is with one possessing weight. There is a freer movement of the jaws, due to laxity of muscular restriction, insuring better mastication. The denture keeps its place better during movements of the head; and the floater, as it may be termed by some, is to me, if not to you, the denture that will give satisfaction.—*Dental Era*.

MEETINGS

INTERSTATE DENTAL FRATERNITY.

The annual meeting of the New Jersey Chapter of the Interstate Dental Fraternity was held July 22nd, in Terrace Garden, N. Y. The meeting was held in connection with a session of the New York Chapter. The officers of the New Jersey Chapter, re-elected for the year, are: Vice-president, Dr. S. C. G. Watkins, Montclair; secretary and treasurer, Dr. Frank G. Gregory, Newark. The annual report of Dr. Gregory was accepted.

MINNESOTA STATE BOARD OF DENTAL EXAMINERS.

The next regular meeting of the Minnesota State Board of Dental Examiners will be held at the Dental Department of the State University in Minneapolis, Minn., on November 10, 11, 12, 1908. All applications must be in the hands of the secretary by November 1. For further information address
DR. GEO. S. TODD, Sec'y,
Lake City, Minn.

WISCONSIN STATE DENTAL SOCIETY.

The Wisconsin State Dental Society, at its recent annual meeting, held at La Crosse, received the report of the committee for the installation of a memorial tablet in the Grace church, at Madison, in memory of the late Dr. Charles E. Chittenden and reports that the work has been completed at a cost of \$157.

The plan that is now known as the Illinois plan of organization, was adopted.

The following officers were elected for the ensuing year and Milwaukee will be the next place of meeting: President, Dr. W. H. Muelder, Madison; first vice-president, Dr. G. F. Hauser, La Crosse; second vice-president, Dr. E. A. Geilfuss, Milwaukee; secretary, Dr. Harvey N. Jackson, Milwaukee; treasurer, Dr. Adolph Gropper, Milwaukee; librarian, Dr. Harry Morton, Milwaukee.

NATIONAL ASSOCIATION OF DENTAL EXAMINERS.

The National Association of Dental Examiners held its recent annual meeting in Boston and elected the following as officers for the

ensuing year: President, Dr. F. A. Shotwell, Rogersville, Tenn.; Dr. J. R. Wallace, Louisville, Ky., vice-president for the South; Dr. Albert L. Midgley, Providence, R. I., vice-president for the East; Dr. J. J. Wright, Milwaukee, Wis., vice-president for the West; Dr. Charles A. Meeker, Newark, N. J., was elected secretary.

CANADIAN DENTAL ASSOCIATION.

The Canadian Dental Association held its annual meeting at Ottawa, adjourning August 6th. The following officers were elected for the ensuing year: President, Dr. A. E. Webster, Toronto; vice-president, Dr. W. D. Cowan, Regina, Sask; secretary-treasurer, Dr. J. G. A. Gendreau, Montreal; executive committee, Drs. George K. Thompson, Halifax; C. A. Murray, Mocton; J. S. Bagnall, Charlottetown, P. E. I.; G. F. Bush, Winnipeg; J. McGuire, British Columbia; O. F. Strong, Edmonton, Alta.; Dr. Wallace Secombe, Toronto and Dr. W. C. Cowan, Peterboro, installed the new president.

MISSISSIPPI STATE BOARD.

The newly appointed Board of Dental Examiners for Mississippi consists of Drs. P. H. Wright, Oxford; L. B. McLaurin, Natchez; A. B. Kelly, Yazoo City; C. T. Shumaker, Poplarville, and E. Douglas Hood, Tupelo. All are members of the State Association and represent the most ethical class of practitioners in the State.

The Board organized and elected Dr. A. B. Kelly, Yazoo City, President, and Dr. E. Douglas Hood, of Tupelo, Secretary. The Board will meet to examine applicants May 19 in Jackson. For particulars and requirements, address the Secretary.

Yours truly,

E. DOUGLAS HOOD,

Secretary Board Dental Examiners.

DENTAL MANUFACTURERS' EXHIBIT.

Arrangements have been completed for the next Dental Manufacturers' Exhibit to be held at the Hotel Sinton, Cincinnati, Ohio, on October 27, 28, 29 and 30th.

Cincinnati was chosen for this exhibit for the purpose of giving the dentists in the central states, who could not attend the exhibition held in March, in New York, an opportunity to attend this one.

The product of the leading Dental Manufacturers of the United States, is fully demonstrated at these exhibitions, among them being

the latest inventions in all lines of dentistry and they are not only interesting but educational.

No expense is spared to make these exhibitions a success and the location of the October exhibition is exceptionally good, being in the best hotel in the city.

Special arrangements have been made for the comfort and entertainment of the lady visitors, and the four days spent in the city can be filled in a most beneficial and interesting manner.

There is no fee of admission, buttons being furnished on application at the registration desk, admitting the wearer to the exhibition hall and clinics at all times.

All dentists and their families are invited to attend and special hotel arrangements are being made for the out-of-town guests.

NORTHERN INDIANA DENTAL SOCIETY.

The annual meeting of the Northern Indiana Dental Society will be held in Fort Wayne, September 8, 9. Following is a partial list of papers:

Some Phases of Alveolar Abscesses and Their Treatment.—Dr. George Cook, Chicago.

A Review of the Work of the State Association During the Past Twenty Years.—Dr. H. C. Kahlo, Indianapolis.

The Embriological Aspect of the Cleft Palate.—Dr. W. D. Calvin.

Surgery of Cleft Palate (illustrated by stereopticon views).—Dr. George E. Johnson, Fort Wayne.

The Intellectual Development of Man and Its Effect Upon the Third Molar.—Dr. George T. O'Dell, Attica.

DENTAL CARIES.

(a) History.—Dr. C. A. Nixon, Valparaiso.

(b) Etiology.—Dr. George B. Corbitt, North Judson.

(c) Treatment.—Dr. L. A. Salisbury, Crown Point.

Disinfection of the Mouth.—Dr. K. E. Hatch, Fort Wayne.

Degeneracy.—Dr. Howard R. Raper, Indianapolis.

NORTHERN ILLINOIS DENTAL SOCIETY.

The twenty-first annual meeting of the Northern Illinois Dental Society will be held at Freeport, October 21 and 22, 1908.

Mark the date in your appointment book and be sure and come

for both days. The supervisor of clinics and program committee promise one of the best meetings of the society.

C. L. SMITH, Secretary, St. Charles, Ill.

NATIONAL DENTAL ASSOCIATION.

OFFICERS FOR 1908-9.

At the twelfth meeting of the National Dental Association, held in Boston, Mass., July 28 to 31, 1908, the following officers were elected for the ensuing year:

V. E. Turner, Raleigh, N. C., president; Wm. Crenshaw, Atlanta, Ga., vice-president for the South; Eugene H. Smith, Boston, Mass., vice-president for the East; W. T. Chambers, Denver, Colo., vice-president for the West; H. C. Brown, Columbus, Ohio, corresponding secretary; Charles S. Butler, Buffalo, N. Y., recording secretary; A. R. Melendy, Knoxville, Tenn., treasurer.

Executive Committee—New members: J. D. Patterson, Kansas City, Mo.; C. J. Grieves, Baltimore, Md.; H. B. McFadden, Philadelphia, Pa.

Executive Council—H. J. Burkhart, chairman, Batavia, N. Y.; B. Holly Smith, Baltimore, Md.; F. O. Hetrick, Ottawa, Kan.; A. H. Peck, Chicago, Ill.; W. E. Boardman, Boston, Mass.

Birmingham, Ala., was selected as place for 1909 meeting.

185 East State Street, Columbus, Ohio.

H. C. BROWN, Corresponding Secretary,

MISCELLANEOUS

TREATMENT FOR CANKER SORE MOUTH.

I have found the full strength aromatic sulphuric acid almost a specific for this condition. I prescribe internally tincture of ferric chloride gtt. v.; potassium chlorate, gr. iii.; water, $\frac{1}{2}$ oz., every three hours in lemonade.—*J. E. Power, the Tri-State Dental Journal.*

TO PREVENT RUBBER WARPING ON ALUMINUM PLATES.

When the base plate is made and spurred, if, instead of using the ordinary vulcanite and placing it in contact with the metal, you will put on a thickness of what we call weighted rubber, you will find it will persist in hugging and will not warp away, as the pure or straight vulcanite does.—*R. C. Brophy, Dental Era.*

INLAY WAX MODELS FOR CAST GOLD FILLINGS.

After the wax model of the cavity has been removed from the tooth, it can be made smooth by painting with chloroform—the surface will be perfect. This is superior to heat or anything else I have used.—*A. W. Harlan, Review.*

CASTING A HOLLOW INLAY.

When the wax model has been well seated in the cavity remove it and, holding it in your hand, with a sharp lancet or other suitable instrument cut out the internal part of the wax, undercutting as much as you desire; then replace it in the cavity for final adjustment. In the final adjustment no hard pressure is placed upon it, and there is no danger of crushing in the internal pocket. The pocket carved in the wax will be accurately reproduced in the cast inlay.—*Dr. Taggart, Items of Interest.*

HOW LONG ARSENIC SHOULD REMAIN IN TOOTH.

There are several factors which govern the length of time an arsenical application should remain sealed within a tooth, such as the strength of the preparation used, the age and general condition of the patient, and the general condition of the pulp itself. Taking into consideration these various factors, the arsenical preparation should remain in the cavity from two to six days.—*L. P. Buckley, Brief.*

LOCAL ANESTHETIC FOR PYORRHEA.

Chloroform	1 ounce
Cocain	20 grains
Oil of cloves.....	8 drops
Oil of cassia.....	8 drops
Menthol	8 grains

Before removing deposits from roots, saturate a pellet of cotton with this solution, crowd it gently into pockets and allow it to remain a few moments. Be careful to keep cork in bottle, as the chloroform will evaporate rapidly.—*Brief.*

HIGH-PRESSURE SYRINGE.

The high-pressure syringe in vogue in recent years with many operators acts with a power and suddenness that precludes intelligent control, and as teeth vary greatly in their histological structure, some having tubules of large caliber and direct communication with the pulp, it is quite likely that in many instances the effect produced upon the pulp would prove fatal to that organ.—*Summary.*

DIABETIC PATIENTS.

The editor has never known of the cure of a case of pyorrhea alveolaris where it occurred in the mouth of a diabetic subject. The assertion is sometimes made that pyorrhea can be cured whether the case be simple or complex in character, but such statements are usually thoughtlessly made, and should not always be given credence. The dentist who is in possession of a successful method of treating any pathologic condition, and fails to give it to his brother practitioner, is unethical. If he bottles it up and sells it as a secret formula, he is likewise unethical according to those capable of judging.—*Brief.*

COLORLESS IODINE.

When patients object to the discoloration of skin produced by painting with tincture of iodine, as in the treatment of goiter, it is very easy to make colorless iodine, and make it instantly, without waiting a minute for the change:

Tincture of iodine.....	24.0 (drs. 7)
Aqua ammonia.....	6.0 (drs. 1½)
Carbolic acid.....	1.0 (drs. 10 to 12)

Shake well and wait just a moment and all color will be gone. The therapeutic value is not seriously affected.—*Clinical Medicine.*

TEMPORARY CEMENT.

For the powder: To each ounce of ordinary oxid of zinc add, for coloring purposes only, two grains of chrome yellow and four grains of raw sienna. This must be carefully and thoroughly mixed. For the fluid make two solutions, "a" and "b." "a" is a saturated solution of zinc sulphide. "b" is a solution of 12 grains of boracic acid to 3i of water. Now mix three parts of "a" to one part of "b" and the fluid for the filling is ready.—*Dr. H. Clark, Review.*

NON-COHESIVE FOIL FOR FILLING.

Do not overlook the value of non-cohesive foil for filling teeth, not in little pellets, but in rolls containing never less than one sheet and sometimes two or three. As a method it is quick and sure. I would prefer to use non-cohesive foil in proximal cavities of bicuspid with cohesive foil in the step, but I would not advise its use always to the exclusion of the inlay. Where an inlay is the best method use it, meaning always the cast inlay, and the very best one you can make.—*George W. Haskins, Review.*

CARBORUNDUM STONES WARP.

Carborundum stones are very prone to get out of true; in fact, nearly all of them proceed to do this immediately, which at once impairs their usefulness, and in most cases eventually destroys it altogether, long before the stone is worn out. They can be brought into true again by rubbing against another stone of the same material. Mount the stone to be trued upon a mandrel as usual, chuck it in your engine handpiece, and run it against a larger one, running in the lathe. Fix up some kind of a hand rest out of a block of wood or a small box. This process is always worth while, and frequently the result is a stone superior to the original.—*Articular.*

PYROMETER FURNACES INACCURATE.

It must be borne in mind that pyrometer furnaces are not accurate unless they are manipulated under uniform conditions. The following points should be observed in fusing porcelain. Always heat the muffle previous to firing the porcelain. Never place the porcelain in an intensely hot furnace. Heat the porcelain slowly. Run the pyrometer under similar conditions for each firing. Do not try to fuse porcelain and do other things at the same time unless an automatic pyrometer furnace is being used.—*Dr. B. J. Byram, Items.*

RESTORATION OF THE VOICE IN PROSTHESIS.

The lingual surfaces of the upper incisors are concave, and about half or three-fourths of an inch back is quite a prominence of the hard palate. The mucous membrane fills in back of the teeth so as to form what might be called a double curve between the points of the teeth and the center of the hard palate. The play of the tip of the tongue upon the teeth and this prominence is one of the most important movements in speech and when we can restore this portion of the mouth to the form given by nature we will have made a long step towards the restoration of the voice to our patients.—*A. E. Royce, Review.*

WARPAGE.

Warpage of plaster models is induced in two ways: as the result of expansion and as the result of compression in flask closure.

Add a little sulphate of potassium to the water before introducing the plaster, to accelerate the setting and also to reduce the tendency to expand. Stir the mass very little or just enough to insure a uniform mix.

Trim the impression immediately upon removal from the mouth, apply the separating medium and introduce the plaster for the model. When the latter has set sufficiently to permit, remove the tray and impression. This will prevent warpage to a great extent, but will not obviate expansion. The expansion is compensated for by scraping the periphery of the model along the line where the denture margin will rest.—*Dr. J. H. Prothero, Digest.*

FUSING POINT OF PORCELAIN.

It must be borne in mind that porcelain has no definite fusing point, as a piece of metal has, and the mere fact of heating the furnace up to the degree of heat indicated on the scale for the fusing of a given porcelain will not necessarily cause the porcelain to fuse. Time is a large factor in the fusing of porcelain, and unless sufficient time is given the porcelain will not be properly fused. If, on the other hand, too much time is consumed when the porcelain is heated to the point of high biscuit, it will become over-fused. It is just as well to fuse the porcelain at a given point of resistance on the scale as to fuse it at a given temperature point.—*Dr. J. Q. Byram, Items.*

PERSONAL AND GENERAL

Fire—The office of Dr. E. S. Ritter, at Morristown, Pa., was damaged by fire to the extent of \$200 with no insurance.

McHugh-Munchoff.—Dr. Joseph T. McHugh and Miss Estella Munchoff, both of Louisville, Ky., were married May 25.

Grace-Flowers.—Dr. Lucian Grace of Kirkmansville, Ky., and Mrs. Myrtle Flowers of Crofton, Ky., were married August 12.

Fire.—The office of Dr. Harry Eckler, in Dallas, Tex., was destroyed by fire June 24, with reported loss of \$4,000, partly insured.

Morris-Yungbluth.—Dr. Harry Morris of St. Albans, W. Va., and Miss Josie Yungbluth of Cincinnati, Ohio, were married July 28.

Farmer-McCormick.—Dr. LeRoy L. Farmer of Deering, Ia., and Miss Mamie McCormick of Keokuk, Ia., were married August 9.

Fire—Slight damages was caused by fire in the office of Dr. Cora Miner, at Waukon, Iowa. The fire was caused by electric wires being crossed.

Simpson Brings Suit—Dr. J. W. Simpson of New York, who was shot and seriously wounded by his mother-in-law, has brought suit for damages.

Dies From Teeth Extraction—Miss Effie Lane, at Pomona, Ill., 22 years old, died August 17 from blood poisoning caused from the extraction of four teeth by a dentist.

First Woman Dentist—Dr. Lucy B. Taylor of Lawrence, Kan., was the first woman to be granted a diploma from a dental college, having graduated from the Ohio State Dental College in 1866.

Dies in Brother's Office—Mrs. John Daly of West Allis died in a dentist's chair in the office of her brother, Dr. E. F. Stapleton, just after having been given chloroform for the removal of an ulcerated tooth.

Will Practice in Germany—Dr. Laura Trega of Traverse City, Mich., has gone to Germany, where she has accepted a position in Dresden in the dental office of Dr. John McBride, a former Detroit man. Dr. Trega is a graduate of the U. of M. dental department.

Swallowed Artificial Teeth—Daniel Rielly of Danville, Pa., a patient at a Bloomsburg hospital, underwent an operation for the removal of a set of teeth which he had swallowed. The operation was successful and the patient is recovering.

Dentists Held for Death—A Chicago dentist was recently indicted for manslaughter in connection with the recent death of a four-year-old boy. He was accused of injecting a poisonous fluid in the boy's gums causing his death. The dentist is a traveling dentist and operates in a tent..

Robberies.—Drs. Saunderson & Fletcher, Grand Forks, N. D., loss \$50; E. G. Fry, Greencastle, Ind., loss \$30; C. M. Dowell, Elkhart, Ind., loss \$40.

Mexico Not a Desirable Location—Dr. R. J. Allison, formerly of Charles City, Ia., has recently sold his dental practice in Iowa Falls, and has been searching Mexico for a location. He reports that the revolution in Mexico has made the conditions unfavorable for dental practice.

Filling Teeth a Luxury—A judge in Jersey City has decided that the filling of teeth with gold is a luxury. The defendant who's daughter had \$64 worth of gold filling need not pay, but judgment was given for \$2 which was charged for extracting. The judge decided that filling teeth was a luxury, but the extraction a necessity.

Antikamnia Company Builds.—The Antikamnia Chemical Company will start building on September 1 a structure to cost \$75,000 on the corner of Pine and Fourteenth streets, St. Louis. It will be a five-story and basement building and will be used for the manufacture of their products. The site has been owned by Mr. Frank A. Ruff, president of the company, for about seven years. The Antikamnia Company will occupy the entire building.

State Board Affairs—A dental company in Ogden, Utah, has been arrested for practicing dentistry without a license.—Two dentists at Portsmouth, Ohio, have been arrested for illegal practice. The arrests were made by affidavits sworn to by Dr. W. D. Tremper a member of the State Board of Dental Examiners. They were placed under bonds of \$300 each.—A dentist in Brooklyn, N. Y., was arrested for practicing dentistry illegal and placed under \$500 bonds. A woman agent of the New York State Dental Society was the complainant.—A dentist in Minneapolis has been arrested for illegal practice.

An Editorial Writer Knows—The following editorial which appeared in the Boston Herald during the recent National meeting demonstrates the difference between a journalist and a newspaper man. The gentleman who wrote this is a credit to his profession and has grasped the salient points of professional meetings: "If our friends of the visiting National Dental Association were concerned mainly in the financial return they can draw from the teeth of the great human family, they could not be so deeply interested as they are in the worthy cause of teeth preservation. Why shouldn't the dentists ignore that tendency which leads people to neglect their incisors and their molars, to eat things destructive of the bone substance and to neglect their mouths until warned by pain of their folly? Why are physicians living in the constant effort to make their patients better able to resist the inroads of disease? Why are the lawyers bending their energies more and more to peaceful settlement of controversies and the shortening of trial lists? One reason may be that there's ample money return in doing to others as one would be done by, but another and a higher reason is that the members of the skilled professions, in common with the greater part of humanity, are growing more regardful of humanity's real needs."

Tent Show Dentist Extracts; Boy Dies.—Stuart Hassler, 4 years old, died recently after having been given an anaesthetic and having four teeth extracted by a tent show dentist. The dentist is being held.

No Pay, Removes Crowns.—A dentist in New York City, believing a check given him in payment for dental work to be worthless, forcibly removed several crowns from the mouth of a lady patient some time after the work was finished. The dentist had sent the check to the bank to be certified and the cashier had said it was unnecessary, as the check was good. The dentist misunderstood the message and took it for granted the check was worthless and sent for the patient, with above result. He was bound over in bonds of \$300.

Removals.—Drs. A. W. Hepler, from Wyoming, Ia., to Des Moines, Ia.; H. A. Pitman, from Grinnell, Ia., to Tipton, Ia.; H. C. Kaschau, from New Ulm, Minn., to Crosby, N. D.; H. R. Francis, from Three Rivers, Mich., to Ashtabula, O.; B. Featherstone, from Goodhue, Minn., to Red Wing, Minn.; W. P. Tanner, from Cannon Falls, Minn., to Goodhue, Minn.; B. L. Wallace, from Carey, Ohio, to Marion, Ohio; Geo. Schuhmacher, from Denver, Colo., to French Lick, Ind.; Isaac Sundberg, from Joy, Ill., to Decatur, Ill.; Mason K. Moyer, from Conshohocken, Pa., to Morristown, Pa.; C. F. Kennedy, from Cincinnati, Ohio, to Chardon, Ohio; A. D. Darling, from Tyndall, S. D., to St. Cloud, Minn.; C. F. Kennedy, from Cincinnati, Ohio, to Painesville, Ohio; V. R. Hawkins, from Union, S. C., to Whitmire, S. C.; Nathan Gist, from Cedar Falls, Ia., to Lewis, Ia.; C. W. Daye, from Coloma, Wis., to Shakopee, Minn.; L. R. Snyder, from Lake City, Mich., to Shakopee, Minn.; R. H. Hecht, from Hawkeye, Ia., to Bismarck, N. D.; Geo. Cress, from Rock Falls, Ill., to Wheatland, Ia.

NECROLOGICAL.

Dr. W. H. Reilly, a dentist at Oskaloosa, Ia., died July 22. He was 67 years of age.

Dr. Thomas Burwell Alsop, a dentist of Vincennes, Ind., died at Carlyle, Ill., July 28. He was 32 years of age.

Dr. C. P. Dennis, a dentist at Portsmouth, Ohio, died August 5. He was 75 years of age.

Dr. Herman Grossman, a dentist at Chicago, Ill., died of heart failure August 12. He was 54 years of age.

DENTAL PATENTS

Fig. 1.

893,817. Artificial Tooth.—Thomas Flintoff, Claremont, Western Australia, Australia. Filed February 2, 1907. Serial No. 355,432. 1. An artificial tooth having a recess formed therein and a key mounted in said recess having pliable tangs formed thereon and lateral pins taking into laterally formed recesses in said tooth.

FIG 1

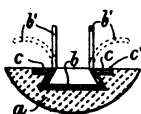


FIG 4

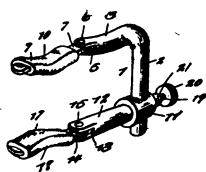


FIG 3

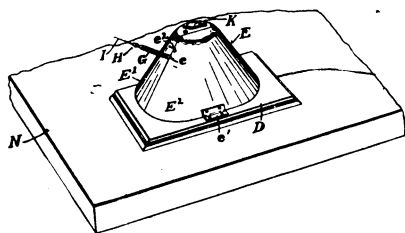


FIG 2

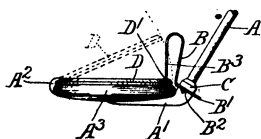


FIG 5

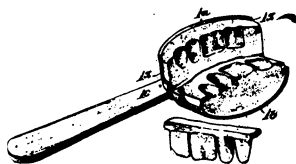


Fig. 5.

882,155. Dental Impression-Tray.—William T. Lyon, Portland, Ore. Filed Aug. 6, 1907. Serial No. 387,322. 1. An impression tray comprising a plurality of sections hingedly secured together on an axis lying substantially in the central plane of the tray, substantially as shown and described.

Fig. 2.

893,293. Dental Mirror.—James A. Wright and Anna M. Nicodemus, Chicago, Ill. Filed October 7, 1907. Serial No. 396,222. 1. The combination of a dental mouth mirror with a transparent plate, means for detachably securing it upon the mirror, comprising an overhanging lug at one edge and a movable clip at the opposite edge.

Fig. 3.

893,685. Dental Broach-Covering Mechanism.—Rudolph Siegel, Cincinnati, Ohio. Filed November 30, 1907. Serial No. 404,582. 1. In a dental-broach covering mechanism, the combination of a revolvable shaft, a broach-holder, a dental broach in said broach holder, and a releasable driving connection between said shaft and broach-holder for holding said broach to said shaft for being turned thereby while receiving a fiber-covering in the manner specified and permitting ready release of said broach-holder from said shaft when said broach has received its fiber-covering, substantially as described.

Fig. 4.

892,682. Mouth-Prop.—Roy S. Price, Rochester, N. Y. Filed March 4, 1908. Serial No. 419,137. 1. A device of the character described, comprising a body portion, rigid members extending laterally therefrom, and parallel cushioned members pivoted in said rigid members, said members having their cushions on their adjacent faces curved toward each other, one of said members being sleeved on said body and adjustable toward the other and also horizontally adjustable upon said body.

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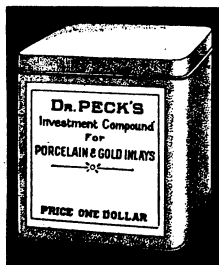


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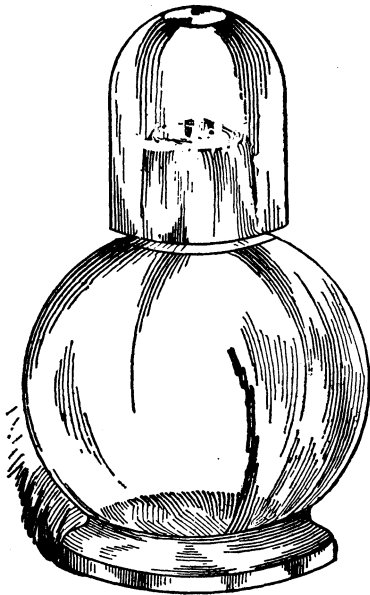
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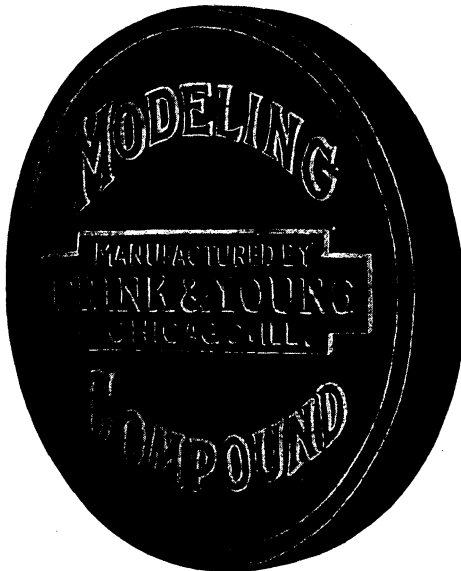
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